

**IMAGINATIVE WRITING OF
DEAF CHILDREN**

By

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ABSTRACT

This thesis explores the issue of imaginative writing of deaf children. Thirty deaf children aged 9-11 years were recruited from Hearing Impaired Units and mainstream schools. Thirty hearing children were matched on academic performance (according to teachers) and chronological age and recruited from the same classes as the deaf children. Three sets of imaginative stories were collected from the above groups at three points during one academic year. A mixed methodology was employed in order to investigate imaginative writing of deaf children. For the evaluation of children's stories an "Imagination Story Scale" was developed based both on the literature review and on the in-depth analyses of four children's imaginative stories. The scale consists of four categorised divisions (story structure, story plot, linguistic imagination, originality) and one additional division (overall assessment).

Assessments of both deaf and hearing children's stories using the scale revealed little variation between deaf and hearing children's scores in the scale, indicating that deaf children do have imagination and are able to express it in writing. However, differences were observed between the scores for the different topics (for both groups of children) suggesting that the topic of the stories influenced their scores. Imaginative writing of deaf children was not predicted by: age, gender, degree of hearing loss, type of communication used at home, or use of activities to promote children's imagination either in the classroom or at home. Teachers' opinions of deaf children's imagination were explored through interviews. The Teachers of the Deaf tended to under-estimate deaf children's ability to demonstrate imagination in their writing by comparison with the stories that the deaf children produced.

DEDICATION

Στους γονείς μου,

Αγγελο και Πεπη,

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CHAPTER ONE

INTRODUCTION

Ithaka

*As you set out for Ithaka
hope your road is a long one,
full of adventure, full of discovery.
Laistrygonians, Cyclops,
angry Poseidon-don't be afraid of them:
you'll never find things like that on your way
as long as you keep your thoughts raised high,
as long as a rare excitement
stirs your spirit and your body.
Laistrygonians, Cyclops,
wild Poseidon-you won't encounter them
unless you bring them along inside your soul,
unless your soul sets them up in front of you.*

*But don't hurry the journey at all.
Better if it lasts for years,
so you're old by the time you reach the island,
wealthy with all you've gained on the way.*

(poem by Cavafis, 1911)

The above extract from the poem by Cavafis: Ithaka, elaborates in a unique way a journey full of excitements, joy and difficulties but with the ultimate aim to arrive at Ithaka (the island). This journey described by Cavafis is similar in many ways to the journey of doing a PhD. In the same way, a PhD is a journey in which research can take one into dangerous areas, in which one can be misled and the only way in order to get to the Island (PhD) is to keep focused. It lasts for years but by the time the research is completed and despite the tiredness, the journey has made one rich and full of experiences. Well, let the journey begin!

1.1 Information about the Context of the Study

The present study attempts to look into the expression of imagination of deaf children in writing. The initial point is to present definitions of the terms that comprise the backbone of this thesis. For simplicity the word “deaf” is used throughout this study, although a distinction between “deaf, “Deaf” and “hearing impaired” is made here in Section 1.2.2. Moreover, the meaning attributed to the words ‘imagination’ for the purpose of this study is also discussed. The importance of looking into imaginative writing of deaf children and the development of the research questions follow in this chapter.

Chapter 2 attempts to present the wider theoretical background on which this research study is based. The three key topics of the present study: imagination, writing and deaf children are discussed separately. Literature on the concept of imagination, on the development of children’s imagination, teaching of writing in the classroom and issues on language and assessment of imaginative writing are all drawn together with the literature on deaf children’s language and literacy attainments in order to discuss what is known, what unknown and what has to be learned about deaf children’s imaginative writing.

Based on the gap of knowledge in the field of imaginative writing of deaf children, the present research study was designed. Fundamental issues regarding epistemological paradigms, the research design and sampling of the present research are presented here. The mixed methodology nature of this study is also discussed. The methodological tools for the collection and the analysis of the data are next to follow. It is crucial for any research study to address issues of reliability, validity and ethics.

Last but not least, this chapter presents the pilot study, which made a great contribution to the final design of this research.

In Chapter 4 the stories of four deaf children are analysed in depth, paying particular attention to the characteristics of imagination that emerge from their stories. Observations regarding the presentation of their stories and other background characteristics are discussed. The comments on the deaf children's stories of the Teachers of the Deaf are used to support the findings.

Chapter 5 is based on the results and analysis of the previous chapter and is devoted to the development of the assessment tool. The difficulty of assessing imagination in stories is captured in this chapter by presenting the gradual development of the "Imagination Story Scale" and the various steps that followed towards establishing the reliability of the scale.

Using the scale described previously, the results of quantitative analysis are presented in Chapter 6. The findings on the comparison of the performance between deaf and hearing children are followed by the results for the individual sections of the scale. The results of the quantitative analysis are elaborated by the presentation of the results of the qualitative analysis of the teachers' interviews.

Chapter 7 aims to discuss the results presented in the two previous chapters to draw some conclusions on the imaginative writing of deaf children.

This journey ends in chapter 8 in which the findings are summarised followed by limitations of the present study and implications for further research.

1.2 Definitions and Terms Used

1.2.1 Terminology: Degree of hearing loss, types of hearing loss, causes of deafness and types of amplification

In a study concerning deaf children it is vital to provide some background information on the degree of hearing loss, causes, and types of amplification. These issues around deafness are presented here briefly and as information in order to accomplish the aim of this section which is to introduce the reader to the context of the study and to some of the terms used in the main body of this study.

There are several procedures for measuring hearing thresholds. When an audiometer is used the testing is performed as Baldwin and Watkin (1997) describe: “*The air conduction threshold is measured for tones delivered by headphones placed on the ears; the bone conduction threshold is measured for tones delivered by a vibrator placed on the mastoid bone*” (p. 6). The results are presented on a graph which is called an audiogram and which provides information about both the degree and type of hearing loss.

According to the degree of hearing loss, measured in decibels (dB) these are categorised as illustrated in Table 1, to help individuals and professionals to have a common language in talking about hearing levels.

Table 1: Descriptors for pure-tone audiograms (based on BSA, 1988)

Audiometric Descriptor dBHL	
Mild hearing loss	21 - 40 dB
Moderate hearing loss	41-70 dB
Severe hearing loss	71-95 dB
Profound hearing loss	In excess of 95 dB

The degree of hearing loss affects the access that a person has to sounds. Thus, a mild hearing loss can lead to inattention, mild language delay and mild speech problems. Children with moderate hearing loss do not perceive all speech sounds at normal conversational level. These children may show inattention, language retardation, speech problems and learning problems. They typically respond well to language and educational activities with the help of amplification. In severe hearing loss language and speech will not develop spontaneously. Without amplification children with severe hearing loss cannot hear sounds or normal conversations. Lastly, children with profound hearing loss are likely to have severe language delays, speech problems and possible related learning dysfunction (Northern and Downs, 2002).

Language abilities of children are not only affected by the degree of hearing loss but also by the time of the occurrence of hearing loss- whether it occurs prelingually or postlingually. Losses that are congenital or that occur prelingually are much more disruptive for the language acquisition processes than losses acquired later in life (Berko-Cleason, 1997). People with prelingual deafness present a different group from those who lost their hearing later in life.

Apart from the degree of hearing loss there is also the type of hearing loss. In an overview, there are different types of hearing loss: conductive, sensori-neural and mixed (Norden and Downs, 2002). The most common type of conductive hearing loss is glue ear (Otitis Media) as Watson (1999b) describes it:

This type of loss results from some interruption in the way the sound passes or is conducted through the outer or middle ear, caused by inflammation or fluid in the middle ear (p. 4).

Conductive hearing loss is not usually permanent. On the other hand, sensori-neural hearing loss is permanent; the problem is sited in the cochlea or in the nerve of hearing. In mixed hearing loss both sensori-neural and conductive losses are present. Moreover, a hearing loss can be unilateral (affects only one ear) or bilateral (hearing loss in both ears).

In order to enhance access to sounds, amplification is needed. There are different types of amplification. Very briefly these are: hearing aids and cochlear implants. The way that cochlear implants work and their importance for the academic achievements of deaf children are discussed extensively in Chapter 2 (Section 2.4.3).

Hearing aids make sounds louder across a relatively narrow frequency range. The parts of which a hearing aid is composed are presented in Table 2 below.

Table 2: The components of hearing aids (based on Maltby and Knight, 2000)

Components of Hearing Aids	
Microphone	Picks up sounds from the environment and changes them into an electrical signal
Amplifier	Increases the electrical signal
Battery	Power supply in order to increase the sound output
Volume control	Which adjusts the level of amplification
Receiver or Loudspeaker	Picks up louder sounds and sends them into the ear
Earmould	Delivers sound transmission to the eardrums

One type of hearing aid is BAHA which is a bone conduction hearing aid which is attached to the bone by means of an implanted titanium screw. BAHA consists of a titanium screw, an abutment and a hearing aid and insert (Maltby and Knight, 2000). The most common hearing aids used by children are postaural aids, which sit behind the ear.

The terms used to describe people with hearing loss are also related to the degree of hearing loss.

1.2.2 The use of the terms: Hearing impaired, deaf and Deaf

Before proceeding to attempt to explain the definitions used to refer to people with hearing loss, it is important to provide some demographic characteristics of the population of deaf children in the UK.

In the UK, there are about 20,000 children aged 0-15 years who are moderately to profoundly deaf. About 12,000 of these were born deaf and one in every 1,000 is deaf

at three years old. This rises to two in every 1,000 children aged 9 to 16 (RNID, factsheet).

There exist different terms to describe deaf people. The terminology used to describe people with hearing loss is complicated and can arouse strong feelings in deaf people. The issue of which definition should be used is a personal thing and is down to children and parents to decide their preference on how they like to be called. However, for the purpose of understanding the terms used in the present research study, a broad definition of the terms is given with no intention to suggest that there is a consensus on the explanation of the terms.

The terms deaf and hearing impaired can be used interchangeably. These two terms include all people with any degree of hearing loss. However, it is suggested that the term hearing impaired might be seen as deficit (impairment = negative) and as a result people might prefer to be called deaf. On the other hand some children might not like to be classified as deaf and might prefer the term “hearing impaired” (Watson, 1999a). A deaf person who is an active member of the Deaf community, and shares the same culture and language (sign language) with the other members of the community is called “Deaf”. Lastly, “hard of hearing” can be described a person who lost their hearing later in life or people who have mild hearing loss. Some “hard of hearing” people may not realize that they have hearing loss (Stewart and Kluwin, 2001).

In the present study the word “deaf” is used to refer to people moderately to severely deaf.

1.2.3 The term ‘imaginative writing’ used in this study

In this study “imaginative writing” is investigated in the context of stories which children are asked to produce. In order to be specific as to what is expected from the children, a definition of the word “story” is given. As Johnson (1995) states a story is an arrangement of words which presents issues, characters, ideas and events. According to McKay and Dudley (1996) a story is full of magic and is a vehicle that can take one anywhere.

The working definition of imagination in the present study and how it was developed based on the existent literature is discussed explicitly in Chapter 2.

1.3 How the Inquiry Began

In this section the first person is used in order to describe the reasons for carrying out this research work. The story starts eight years ago, in Greece, when I was doing my teaching practice in order to become a special needs teacher. I had to teach in different educational settings and children with various special needs. During my training I was sent to a Hearing Impaired Unit. The main objective of the project was to develop an education programme in order to enhance reading comprehension of two deaf children. In order to do that, I created a series of stories to meet the reading levels of the two children. They were both using oral communication, one of them had hearing aids (HA) and the other a cochlear implant (CI). The aim was to develop their vocabulary and at the same time to teach them strategies in order to gain understanding of any text given to them. During the project I developed very good relationships with both children. They would spend their breaks with me in the classroom reading stories to them. Whenever we had some free time they would

create stories based on the stories I was writing for them. As time went by, I realised that their stories were including elements from the stories given to them with magical and imaginative characteristics (for example a story which was describing the daily activities of a family was reconstructed to a story about a bear family). The two children were building the stories together using their own ideas. I now regret not keeping notes of these stories although they are still in the back of my mind.

At the same time I started thinking about my personal ability to be creative. Throughout my school life I struggled every time I was asked to imagine something or create a story from my own imagination. I realised that I was able to make up a story but it was never imaginative. I would always base my thoughts on reality but never moving away from it.

During my Master of Arts Degree in special needs I was also working voluntarily in a mainstream school supporting deaf children in the classroom. Having a discussion with a teacher regarding deaf children's imagination, she expressed the opinion that deaf children are unable to think in a creative or imaginative way.

Thus, there was a conflict developing inside me. On the one hand I had the experience from the deaf children in the school in Greece which were, according to my opinion, imaginative, and on the other hand the fact I consider myself unimaginative. Therefore, I was considering that hearing impairment might not be the sole reason for deaf children being unimaginative, as believed by the teacher above, but there might be other underpinning factors.

The thoughts presented above and my personal experience were the driving force towards the exploration of deaf children's imagination. However, that was only the beginning of stimulating my interest in the subject. The process of finding exactly what I wanted to explore was a long one and it is reflected through the development of the research questions.

1.4 The Development of the Research Questions

The research journey that started based on this idea, although it had a predetermined destination, followed a route that had to change many times and getting lost on the way was unavoidable. The initial thought was to investigate the differences in the writing performance between deaf children using hearing aids and children using Cochlear Implants. Although, as presented in the previous section I felt a lot of excitement at investigating deaf children's imagination, there was also a lot of fear of researching such a conceptually difficult topic. How can imagination be explored? What does imagination mean? There were so many different questions related to the theme of imagination of deaf children that it seemed an extremely complicated area to explore.

However, the exploration of the literature increased my understanding of the various issues concerning imagination and different steps in narrowing down the research objectives were taken. Lack of research concerning imaginative writing of deaf children and the persistent neglect of imaginative writing abilities of deaf children pointed towards the formation of the first research question which included some sub-questions.

- Can deaf children express imagination in writing?
- Is their writing imaginative in relation to the features that indicate imagination?
- Is there any correlation between the degree of hearing loss and performance in creative writing?

Further exploration of the literature led to the final development of the research questions. Through reading the literature it was also made clear that it was important to find a way to evaluate deaf children's imagination as this is expressed in writing. So, the research questions were formed as follows:

- **How can imaginative writing of deaf children be assessed?**

Moreover, the comparison between hearing and deaf children seemed important as studies that concluded the imagination of deaf children was limited were based on that comparison.

- **Do deaf children exhibit imagination in their writing?**

The growing understanding of the various characteristics that contribute to the heterogeneity of deaf children and the possible impact that these can have on their imagination enabled the formation of the next research question.

- **Which factors affect deaf children's imagination?**

Under this research question supportive sub-questions were listed:

- *How does age affect imaginative writing?*
- *Is there a difference between genders in imaginative writing?*
- *Does degree of hearing loss affect imaginative writing?*
- *Do cochlear implants affect imaginative writing?*
- *Does home choice of communication affect imaginative writing?*
- *Do home activities in creativity affect children's imaginative writing?*
- *Do creative activities in the classroom affect imaginative writing of deaf children?*
- *Is there any connection between imaginative writing and writing as product?*

The factors that can have an effect on deaf children's imaginative writing may be very difficult to capture. However, the above research questions reflected an attempt to understand deaf children's imagination in broader terms and investigate some of the factors that are likely to have an impact on it. In order to cast more light on understanding and exploring deaf children's imaginative writing it was decided that different methods, including teachers' interviews, would be used in order to answer the above questions.

The final development of the above research questions was a long process and a lot of thought was devoted to them following long academic discussions.

1.5 The Importance of the Study

Browsing the literature on deaf children's literacy, one is bombarded by the numerous research studies engaging with the difficulties that deaf children face in reading and writing. The importance of syntax, grammar and spelling has been over-emphasized over the years opting for deaf children to produce correct and error free pieces of writing (Marschark, 2007). Although this is important for the educational and future development of deaf children, less attention has been paid to the cognitive abilities of deaf children such as imagination, which are also important factors.

The perception that some deaf children lag behind hearing children regarding linguistic imagination is also present in a lot of research studies (discussed in Chapter 2). Conclusions of these studies are based on standardised tests being designed only for hearing children. It should be taken into consideration that research tends to ignore the fact that the population of deaf children is heterogeneous and that although there might be some children struggling to express imagination verbally there are others who are likely to succeed.

Therefore, it is very important to perceive deaf children's imaginative writing in a fair and objective way. The development of an assessment tool that is suitable for deaf children and at the same time user friendly for teachers is really important for examining the children's imagination. Such a tool could possibly affect the way teachers perceive it and as a result can change the way that imagination is promoted and taught in schools. Exploring the factors that affect the way deaf children express themselves in writing can provide teachers and parents with valuable information on how to enhance and support deaf children's imaginative abilities.

In conclusion, both personal experience and review of the literature point towards the importance of conducting a research study looking at deaf children's imagination as expressed in writing. No study is known to exist which has explored this in an explicit way. Literacy attainments of deaf children have to be considered in a wider context acknowledging their skills and abilities

Many deaf children are confident and creative storytellers. The celebrating and nurturing of these skills needs to be undertaken alongside the development of the language that encodes their stories (Jarvis, 2003, p. 20).

1.6 Conclusion

This introductory chapter described the beginning of the present inquiry and the importance of this study for the enhancement of the understanding of deaf children's imaginative writing. This chapter began by giving the context of the story and provided an overview of the following chapters. In order to set the background for this research, information on the degree and types of hearing loss and amplification used with deaf children was presented. Because of the various terms used in this study and the complexity of their meaning, definitions of terms around deafness and imaginative writing were provided. Explanation of the perceptions of deaf children's imagination drawn from personal experience and the lack of literature on the subject highlighted the importance of this study. Last but not least, the development of the research questions was presented. The next chapter describes the exploration of the literature on the various themes regarding deaf children's imagination.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The reasons for a literature review are twofold. You need to read yourself into the field of study in order to gauge where your own ideas fit, what can inform them, what others think and have discovered, and to define where/in your ways your area of questioning your research and your findings could contribute to existing knowledge. (Wisker, 2001, p. 127)

In order to answer the research questions, a better understanding of the concept of imagination, how this develops, how it is expressed in writing and how deafness might affect it is essential. A better understanding of imagination, deaf children's writing and why deaf children might face difficulties in expressing their imagination would be part of the answer to the research question:

- Do deaf children exhibit imagination in writing?

The first section argues that the concept of imagination is complex and that the features that are components of imagination are perceived differently by different authors. From this the section aims to discuss how children exhibit imagination and how it develops at different stages. Arguments of how important language is to imagination and how this might be affected by deafness are made here. Finally, the working definition of imagination for this thesis is given.

The second section focuses on children's writing and examines how reading affects writing by examining how the way that children experience reading can affect the way that they develop as writers. Discussion is then concentrated on the classroom expectations of writing as these are evident in the National Curriculum. The place of

imaginative writing in teaching and children's experience of that is also examined here. Discussion on how imaginative writing can be evaluated follows.

In the third section the argument focuses on how deaf children write, and learn to write, to see whether this process is affected by teaching and learning and/or by deafness. This argument is complemented by the factors in deaf children that might affect their language. Finally, the relation of deaf children and imagination is discussed by examining previous opinions of deaf children's imagination and other factors that might limit their imagination. This will show whether it is possible to gain information by looking at the writing of deaf children in relation to imagination.

Overall, the above discussions aim to examine why deaf children might have difficulties with imaginative writing and how deaf children's imagination is underappreciated. The knowledge gained here will form the basis and help to find out if deaf children actually can express imagination in writing, in what way and what are the factors that can possibly affect their imagination.

2.2 Imagination

2.2.1 Uncovering the idea of imagination

What is the idea behind the word 'imagination'? Is there only one idea or a combination of more than one? The literature studying the concept of imagination is immense and it has been approached by different disciplines (e.g. philosophy, art, psychology). For the purpose of the present literature review an attempt to uncover the complexity of the notion of imagination is made in the context of psychology and education and specifically related to children. Studies on the concept of imagination

have pointed out that imagination is diverse and its perception by different writers can be contradictory. Various writers have implied that the idea of imagination has spread from various centres, covered vast areas and its understanding is based on a synthesis of theories through time (Engell, 1981; Egan, 1992 ; Beaney; 2005).

Although different writers have developed different perceptions of imagination, there seems to be agreement that its core feature is the creation of an image of something even in its absence. This interpretation, which is evident in the work of Hume, Kant and Descartes (as cited in Warnock, 1976), is based on the link between perception and memory and can be interpreted as passive imagination. In that sense imagination is the mechanism of the mind which produces objects and impressions in their absence (Warnock, 1976; Sloan, 1981; Dart, 2001). Based on Kant's (as cited in Kneller 2007) and Hume's (1940) perception of imagination as the ability of the mind to form images but opposed to the passive function of imagination, other philosophers, for example Coleridge and Barfield describe imagination as active, as a power to interpret the world and induce emotions (Avens, 1980). It can be concluded that in the path of philosophy where imagination was first sourced there was a strong relationship between sensory perception and imagery (O'Connor and Aardema, 2005).

The current status of imagination which is influenced by psychological theorizing focuses on the creative function of imagination which arises from action (Smolucha and Smolucha, 1986). The creative imagination is based on the notion that new meanings and new deductions are made (Sloan, 1993) which make imagination the principle of synthesis, of exploring new possibilities and new ideas (Thomas, 1999). It

is suggested that in the perception of imagination as creative, it is seen as the capacity for ‘seeing as’, for perceiving things in a new way. In this area, the two essential characteristics of imagination can be originality and power (Perky, 1910). Imagination is seen as the power to make new combinations, new synthesis (original) but at the same time it acknowledges that although in that sense what is created is unique there is never anything absolutely new created (Simpson, 1992). This ‘combinatory construction’, the direct connection of imagination with meaning-making, with interpretation, with the construction of something new is evident in Vygotsky’s theory which has been extensively discussed by writers who have translated and interpreted his perception of imagination (Ayman–Nooley, 1992; Smolucha and Smolucha, 1986; Gajdamaschko, 2005; Lindqvist, 2003; Shayer, 2003). Vygotsky’s theory on the importance of imagination and on its constructive and creative nature is illustrated in his words:

The brain is not only the organ that stores and retrieves our previous experience, it is also the organ that combines and creatively reworks elements of this past experience and uses them to generate new propositions....
But in actuality, imagination as the basis of all creative activity, is an important component of absolutely all aspects of cultural life, enabling artistic, scientific and technical creation alike.

(Vygotsky, 2004, p.9)

The question now is “Where is imagination based, where does it come from?”

The creative imagination, in which new possibilities are constructed, can be considered as an act of magic, a creation of an alternative world, in which one represents an object from reality in such a way that one can take possession of it (Sartre, 1940). A study by Colman (2006) which discusses cases of patients who transformed their desires into reality, interpreted the denial of reality as a misuse of

imagination which can be seen in patients who adopt imaginary identities and concluded that true imagination is based on reality. The basis of imagination is experiences which are internalised in order to create a unique picture, to create new images but which are gained in the world in which people live (Vygotsky, 2004). In other words, when people imagine they internalize perceptions, they explore a range of possibilities and they separate actions and objects from their meaning in the real world giving them new meaning (Duffy, 1998). Perhaps, the more extensive piece of work which discusses imagination and its inseparable connection to reality is that of Paul Harris (2000). Harris traces imagination back to the Palaeolithic age by interpreting the cave art and the rituals of burying objects with dead people as an act of imagination, as an attempt to bring to mind an imagined world which is nevertheless based on reality, on the physical context. Based on this concept, he sets an ontogenetic description of imagination and he goes on to say that:

I argue that the capacity to imagine alternative possibilities and to work out their implications emerges early in the course of children's development and lasts a lifetime. (p. xi).

Based on Harris's understanding of imagination, it is suggested that the best way towards uncovering the idea of imagination - which is the focus of this section - is to discuss the development of children's imagination, which is the aim of the next subsection.

2.2.2 Children's development of imagination

Based on the earlier discussion, imagination can be perceived as the ability to depart from the real world by looking at, discovering and exploring different possibilities which are however based on previous experience and knowledge. Thus, the basis of

imagination can originate in thinking. Thinking has been described some 2.500 years ago by Confucius (as cited in Houston, 1934) as ‘agglutinative’ and ‘root-and-branch’ thinking. In other words thinking can be on the one hand indirect, alienated from the real world, ‘autistic’ and on the other hand directive, realistic. This distinction between autistic (by which he meant escape from reality) and realistic thought was first made by Bleuler (1951). Bleuler’s theory paved the way in psychology for the study of the development of children’s thought. Kanner in 1943 used the term ‘autism’, albeit in a slightly different way, to describe a syndrome which he called ‘infantile autism’ in children who were observed as being withdrawn from the external world, into their own world and unable to relate themselves in the ordinary way to people and situations (Eisenberg & Kanner, 1958). The inability of individuals to relate to other people’s thought, their withdrawal into themselves and their preference of sameness and repetition forms the characteristics of the autistic spectrum disorder. This pervasive developmental disorder – and not as Kanner thought evident only in childhood – has been discussed, explored and researched by many professionals in the field of autism over the years (Baron- Cohen, 1997; Frith, U & Happe ,1999 and Frith, 1989). Whereas autistic thought in the field of autism may be seen as pathology, as a specific impairment in the neurocognitive mechanism, in Bleuler’s theory, autistic thinking is just another way of thinking, evident both in the thinking of children and adults.

One of the most influential theories in the development of children’s thinking was developed by Piaget (1959). For Piaget autistic thinking is a function of the subconscious not related to reality:

Autistic thought creates for itself a dream world of imagination: it tends, not to establish truths but to satisfy desires, and it remains strictly individual and uncommunicable as such by means of language.

(Piaget, 1959, p44)

Autistic thinking is strictly individual, indirect, and driven by feelings and images. Although he conceived autistic thinking the same way as Bleuler, his theory regarding the development of thinking was different. He argues that although children's thinking at the beginning is autistic and egocentric, not based on reality, children gradually get out of this stage and logic and reality take the place of autistic thinking. The development of children's thinking is also central to the work of Vygotsky (1978). Echoing Bleuler's theory, and opposed to Piaget, for Vygotsky, autistic thought is not suppressed by reality and replaced by logic but it exists even in adult life where it is internalised and becomes inner speech. Inner speech is the basis of self-consciousness, self-control, creative imagination and thinking in concepts (Smolucha & Smolucha, 1986). Vygotsky's theory, as it has been translated and discussed in Smolucha (1992), perceives children's pretend play as the foundation of imagination, which is a higher mental function and in which the role of inner speech is central. The opposing views of Vygotsky and Piaget as discussed above became food for thought and discussion among many theorists in the field. One of the most influential theories in the field of children's imagination has been developed by Harris (2000). In his book 'The work of Imagination', he echoes Bleuler's and Vygotsky's theory of autistic thinking and goes beyond that in arguing that, by pretending, children go beyond the current reality but at the same time without distorting it. By considering various alternatives to reality, children's pretence moves constantly between the sphere of reality and fantasy. Harris's theory played a significant role in

the way that pretend play is perceived as the first indication of the mental capacity to explore alternatives to reality, thus to imagine.

The importance of pretend play for children's development is stressed by Piaget (1962). However, once again he perceives pretend play as merely egocentric in which reality is perceived through children's internal world and cognitive schemas. Despite Piaget's idea of pretend play as a distortion of reality which is evident very early in children's lives, other theorists such as Vygotsky (1978) argue that pretend play is not evident in early infancy but emerges in late infancy around the same time as language and is based on combining aspects of what is known with reality. Early pretend play for example can be based on imitation of activities that are performed at home, such as pretending to pour tea into a cup. The next stage of pretend play is the 'doll pretend' when children pretend that a doll is real and the child may feed the doll or put it to bed (McMahon, 1992). Thus, pretend play being the manifestation of imagination in children is based in knowledge and skills although it transforms these into unreal situations (Meadows, 1993). Children's pretend play is the first sign of children's ability to apply symbolic representation. It can be characterised as delightful being the process which starts from 18 months in which children demonstrate their ability to enter imaginary worlds (Astington, 1994).

An important observation when discussing children's development of pretend play is the way in which language supports and complements pretence (Harris, 2000). A research study (Lyytinen et al, 1997) exploring the relationship between language and symbolic play in 110 toddlers at the age of 18 months using parents' reports, tests to assess language (Reynell Language Scale, Communication Developmental Inventory) and the assessment of symbolic play (Symbolic Play Test) found a strong relationship

between language comprehension and symbolic play with early talkers exhibiting a higher percentage of symbolic play than late talkers. Although in this research the symbolic play was assessed in a structured situation, rather than observing children when they are freely engaged in symbolic play, it demonstrates strong evidence for a language – play relationship. The relationship of language and children's development of imagination becomes even stronger when children are engaged in role play:

With role play children no longer presuppose the context given but rather transform the meanings of persons, objects and actions, thereby using language as the central instrument to generate the altered meanings.

(Andresen, 2005, p.409)

Having videotaped 48 children 3-6 years old as they engaged freely in role play, Andresen also emphasizes the importance of children's interactions with each other and as a result the promotion of language use.

At around 3 years children incorporate narrative themes in their pretend play. In narrative play as Engel (2005) describes it, children's symbolic representations, in which there are characters, actions and scenes, merge with verbal narrative and enable the children to create and explore different scenarios, different kinds of reality and consider various possibilities. For Engel, there exist two spheres in narrative play. When children are engaged in 'what is' pretend play they enact events, dialogues which might occur in real life (using a banana for a phone and pretend that they are talking to their parents). By contrast, in 'what if' play, events and scenarios are not based in reality (children give wings to each other and pretend to fly). Children's pretend play can be described as a continuous movement between those two aspects of play (Engel, 2005). The 'what if' sphere to which some writers refer as fantasy

play (Sanders & Harper, 1976; Paley, 2004) and which includes the imaginative use to which children can put objects or the ability to transport themselves to an imaginary world where they pretend - for example - to be monsters and witches, can be conceived as the precursor of imaginative story-writing (Smith, 1984). This sphere of play which involves pretend elements, changing of voices and changes in time and space, can be - as pretend play- social, and can promote peer interaction.

As seen above, when they play children pretend to take the role of different people and create scenarios around the roles they take. The skills that children manifest in pretend play, such as applying multiple representations to a single object, considering one thing as representing another and the ability to role play, are skills also relevant to a Theory of Mind (Lillard, 1993). The concept of Theory of Mind refers to the fact that the representations of reality that the mind creates are different between individuals and this can explain why people can have differing reactions even to identical events (Courtin, 2000). The ability of children to understand other people's mental states - as Theory of Mind tests - can be related to their ability to engage in pretend play. One of the most classic tests of Theory of Mind is that of false belief. Belief is to believe that something is true and as a result a child who understands which belief is true and which is false understands that people can hold different beliefs from their own (Hobson, 1993). For example, in a classic false belief task a character puts an object in a drawer but when the character is not looking someone moves this object to a cupboard. Then the child is asked in which of these two places they think the character will look for the object (Wellman, 2004). In such false belief tasks, it is likely that children's language abilities contribute to their answers. In a systematic examination of three-year-olds' Theory of Mind, Wellman (1990) presents

evidence that children as young as three years old have an understanding of individuals' mental states and their overt actions.

To sum up, children manifest their ability to imagine early in childhood by pretending, by entering imaginary worlds, by attributing emotions and understanding mental states of the characters they invent. The ability of children to imagine implies a strong relationship between pretence and language. This relationship is illustrated in Harris' (2000) words:

The key concept for linking the two functions is what has come to be known as the situation model..... (p. 192)

That fusion of language and imagination would have enabled us to pursue a new type of dialogue – to exchange and accumulate thought about a host of situations, none actually witnessed but all imaginable: the distant past and future, as well as the magical and the impossible. (p. 195)

Having discussed the ideas behind imagination and how these are evident in children's development various terms such as 'creative' and 'fantasy' were mentioned. The intention of the next subsection is to address these terms and their possible connection with imagination.

2.2.3 Concepts associated with imagination

In the previous subsections imagination was described as creative, involving the exploration of alternative possibilities, as the ability of children to pretend, to enter imaginary/magic worlds and be involved in fantasy play but at the same time incorporating reality. For the purpose of getting a better understanding of the idea of imagination, the terms 'creativity' and 'fantasy' are discussed here in relation to imagination.

Creativity is perceived as a very complex human performance and as the key to rapid development in many sectors (Taylor, 1988; Cropley, 2001). The importance of creativity in the human life is highlighted in literature in Edelson's (1999) words:

Above all, people recognize that this trait makes possible the most sublime human achievements, adding value to life and to living itself. Without creativity we would cease to exist. And even if we could exist, what kind of life would we have? (p. 4)

It is traditional when discussing creativity to talk about Guilford's work (Johnson, 1977), which is the beginning of serious empirical study on creativity. Guilford conceptualises creativity in terms of mental abilities involved in creative achievement (Sawyer, 2006). These mental abilities can be identified as making connections, recognizing patterns, taking risks, challenging assumptions, seeing in new ways (Barrow, 1988). All these abilities which are indicators of creativity involve action which can probably be seen by others whereas the action of imagination as perceived in exploring different situations, in pretending and creating alternative worlds does not always come into visible action but can be developed in one's mind without disclosing it to others.

One of the components of creativity as mentioned above is making connections. According to Fisher (1990), creativity consists of the rearrangement of knowledge in order to gain knowledge of the unknown things. Creativity is about making connections not in the same way as other people do but is the ability to make innovative connections in order to see things in fresh ways (Duffy, 1998). Every time new connections are made, other possible connections are neglected. Making a connection in the same way that most others do, thinking in the same way, makes someone normal but not creative (Nottingham, 2005). The ability to make new

connections might be similar to the ability to imagine but, as Vygotsky (2004) argues, imagination is the basis of all creative abilities. Thus, imagination goes beyond making new connections to working at alternative possibilities and working out their implications by using experience and reality but at the same time by transforming the perception of reality itself (Harris, 2000).

Another meaning of the term creativity is the connection of creativity with problem solving. One of the first researchers who linked creativity with problem solving was Guilford (1950). Researchers who perceive creativity as problem solving speak of problem awareness, problem recognition and problem definition (Cropley, 2001). This aspect of creativity is more obvious when it comes to children. Problem solving allows children to try their ideas and to use a variety of possibilities (Beetlestone, 1998). Problem solving involves creative thinking, further investigation and a different look at things that were earlier taken for granted. Incorporated in this aspect of creativity - as problem solving - is divergent thinking. Researchers who support this aspect of creativity argue that divergent thinking is the kind of thinking that generates many different answers as opposed to convergent thinking which seeks one absolute or correct answer (Fisher, 1990; Craft, 2000). As discussed in 2.2.2, imagination involves the exploration of new possibilities but imagination goes beyond divergent thinking by internalizing images and picturing in one's mind an alternative reality. Creativity is perceived as imaginative activity within which originality is a very important issue, as it involves a departure from what is the norm. Craft (2000) also subscribes to the view that creativity is imaginativeness and that to proceed imaginatively is to be creative. Duffy (1998) supports the idea that for new connections to be made, as creativity is defined, the ability to imagine has to be used

in order to detach oneself from the immediate world, internalize perceptions and explore a range of possibilities. Thus, creativity uses imagination but it can be argued that imagination can be evident without creativity. For example it was discussed, in 2.2.2, when exploring children's pretend play that children can create scenarios and be involved in role play which itself is imaginative but this kind of play may not be creative if the scenarios they act out are the same each time.

Apart from the different definitions given to creativity by different people, researchers also note differences between the creativity of children and that of adults. As Barrow (1988) suggests creativity as applied to children usually means something different from its application to adults. He argues that creative adults have to meet the two criteria of quality and originality in what they produce whereas creativity applied to children is given several distinct meanings: self-expression, productivity, inventiveness or good problem solving ability. Concerning the difference in creativity between adults and children, Cropley (2001) proposes that difference would be expected between adults and children in production of novelty since the first group is more cognitively mature than the second. The difference in creativity between adults and children seems quite similar to the theories - explored in 2.2.2 – regarding 'autistic' thinking and imagination which children do not grow out of but which accompanies them through adulthood.

Although creativity and imagination are quite different as concepts, fantasy is perceived as a form of imagination where what is imagined has little resemblance to the real world. It is claimed that it is the ability to think 'what if' (Duffy, 1998). As was discussed in 2.2.2, when children engage in narrative play they can explore more

farfetched possibilities and create scenarios in which fantastic, magic subjects or objects such as talking animals, monsters and various creatures exist (Engel, 2005). This kind of pretend play goes beyond the limits of imagination into fantasy where departure from realism is fundamental. In this context, Smith (1984) used recorded interactions in nursery or laboratory playroom settings and concludes that children's fantasy play includes a lot of narrative-like features with a clear distinction made between fantasy and reality. Thus, similar to imaginative play of children as discussed in 2.2.2 fantasy play develops in parallel with narrative language. Fantasy as exhibited in narrative stories, incorporates the unexpected and enters a world in which all the impossibilities of reality become possible. As Rabkin (1976) describes:

The fantastic is a quality of astonishment that we feel when the ground rules of a narrative world are suddenly made to turn around 180.

(Rabkin, 1976, p.41)

Various fairytales such as, Alice in Wonderland, Thumbelina, Snow White and Pinocchio enter a fantasy world in which different fantasy experiences and possibilities are explored. Although this is a pretend world intended for children, fantasy can also be common to the lives of adults when impossible situations are imagined and can even occur in their dreams (Fesbach, 1983). The question that arises is “Are children different fantasy thinkers than adults?” Research reviews argue that children are not fundamentally different thinkers than adults as they both entertain fantastical beliefs and engage in magical thinking (Wolley, 1997).

In conclusion, the concepts of creativity and fantasy are linked to imagination and as a result it is important for all research engaged with one of these concepts to develop a clear working definition of how these terms are conceptualised. This is the focus of the next sub-section.

2.2.4 The idea of imagination in the present study

The discussion of the literature regarding the idea of imagination, the development of children's imagination and the terms associated with imagination has led to the development of a personal idea of what imagination is and how it is approached in the present study.

In this research study I* take Simpson's (1992) idea that imagination is creative, active, is 'seeing as', as a starting point. Echoing Vygotsky's (2004) analysis of the contribution of reality – knowledge and experience – in the development of imagination, I argue that the ultimate source of imagination is the knowledge that children gain from the real world, from everyday experiences and from interacting with others. This is evident in pretend play – especially at the early stages – where their pretence incorporates actions and scenarios from everyday life. I argue that the precursor of children's knowledge of reality and gaining of everyday experience is language. Being in agreement with Harris's (2000) suggestion that there is a strong relationship between pretence and language, I suggest that imagination, especially as it emerges in narrative, is constantly transformed through language. What shapes experience and reality is inner speech. Here I perceive language, the same way that Vygotsky (1978) did, in relation to thinking and consciousness and not as the system governed by grammatical and structural rules. This parallel development of imagination and language can potentially become problematic when discussing imagination of deaf children.

*In this subsection the first person is used in order to explain the working definition used in this study and how it was developed.

Hearing children acquire language for the most part without direct instruction during the process of interacting with other human beings (Sanders, 1988). Loss of hearing at birth or at an early age deprives a child of sensory input and ultimately causes language limitations, which can hamper the gaining of experience and knowledge through interacting with others (Hoff, 2001). Therefore, if imagination is based solely on reality and experience then one would expect that deaf children might have difficulties in expressing imagination. The difficulties that deaf children might face when engaged in imagination are discussed in Section 3 of the literature review.

I take Vygotsky's idea that imagination is based on reality and Harris's perception of imagination as the exploration of different possibilities as a starting point for my perception of imagination. I suggest that another criterion for indicating imagination is originality. In agreement with Perky (1910), Ross and Pearson (1987) and Bailin (1996) on the contribution of originality in imagination I argue that originality is the power of imagination which is evident in synthesizing ideas. I adopt Simpson's (1992) idea on originality as the synthesis of ideas, the creation of something unique but acknowledging that nothing absolutely unique is ever created. The way I perceive originality in this study is very well illustrated in an example given by Cremin (1998) of a boy who took on the stereotypical role of an 'American' street-wise character in a drama and gave this character no positive attributes whatsoever. This negative and deliberately imbalanced portrayal expressed his own unique and original moral attitude towards the character. In the same way when I look for originality in children's imagination I am looking for ideas which, although they might be taken from their experiences of the world, from watching television or reading a book, are

unique in the way that they have been transformed and adapted by children to make them their own.

So far, I have argued that imagination is based on reality, is the exploration of different possibilities and that one of its core elements is originality. Echoing Engel's (2005) view of children's narrative play moving between the sphere of 'what is' and 'what if' I suggest that children's imagination is a constant move between magic, impossible situations and worlds, and reality. Fantasy is a form of imagination and for me one of its core elements. However, I see fantasy in imagination as the unexpected as thinking 'what if' but not as distinct from reality.

I therefore reach a conclusion as to the definition of imagination for this study, as follows:

"Imagination in children is the ability to discover various unrealistic situations, to pretend, to think in the sphere of 'what if', to enter magic worlds and combine ideas in a unique/original way and to explore unexpected situations. The source of imagination is reality, thus the experience of the world, in which language plays an important role".

2.2.5 Summary

In conclusion, doing research in the field of imagination can be a very daunting task. Imagination is a very complex idea as has been discussed and reviewed by many theorists in the fields of philosophy and psychology. Views on the idea behind imagination can be contradictory, based on the way it is approached and explored.

The aims of this section were to discuss how some of the most influential theories perceive imagination, how children's imagination develops and how the terms creativity and fantasy can relate to it with the aim of developing a working definition of imagination for the current study.

Having discussed the ideas behind imagination which is where imaginative writing is based, the second area of this research study, which is writing, has to be discussed with a particular emphasis on the importance of language for writing, the tools that exist to analyse imaginative writing and how this is linked to the teaching of writing in school.

2.3. Writing

2.3.1. Language and Literacy

As was discussed above, there seems to be a strong connection between children's imagination and language. Therefore, before proceeding to discuss writing in the classroom and imaginative writing it is important to discuss the impact of language on literacy and within literacy the effect that reading can have on writing. But, what is literacy? It seems that there is not a straight answer to this question:

It is no surprise that there are several perspectives, indeed multiple, interdisciplinary perspectives on the answer to this question (Paul, 1998, p. 5).

One trend, which can be defined as the acceptance of the whole language approach (Goodman, 1985) is to include both spoken and written language in the literacy framework. From another perspective literacy can be described as including reading, writing, computer skills and mathematics, although there is a tendency to emphasize reading and writing or text-based literacy skills (Moore, 1978). Literacy does not

focus only on the processes of reading and writing but also on how print is used in various aspects of people's lives (Stewart & Kluwin, 2001). This is how the term literacy is used in the current study.

Oral language cannot be perceived monolithically as children develop an array of oral skills which are related to various literacy skills (Snow, 1991). A study by Fraser & Conti-Ramsden (2008), having assessed 71 children with a range of language abilities using a number of tasks that measure phonological skills and broader language skills (vocabulary, morphology, sentence correction and sentence processing), arrived at the conclusion that general linguistic ability is strongly related to literacy skills. In particular, they suggested that phonological abilities have an impact on reading accuracy and broader language abilities on reading comprehension. The strong link between literacy and language is also supported by children's emergent literacy which suggests that literacy is not a new skill that children acquire when formal teaching starts but is built on linguistic and cognitive skills which includes knowledge of oral language structure and language function such as interpersonal interaction (Dale & Crain-Thoreson, 1999). A discussion of the way in which children acquire language is beyond the scope of this study, although the connection between language and literacy is accepted. The ability to read and to express oneself in writing is demanded in order to function effectively in a complex literate society where language's role is vital (Moore, 1978).

There is a well-established connection between reading and writing. Writing most commonly follows the elementary mastery of reading, because through reading children can acquire the rules of language and learn the conventions of print (Paul,

1998). When reading takes place, the reader is the one who directs language and visual perception responses in order to extract meaning from the text (Heineman-Gosschalk and Webster, 2003). The reader brings their knowledge of language, their experience of the world and their knowledge of story structure to the text and this helps them to decode. Although many researchers support the fact that writing follows the mastery of reading, according to Stewart and Clarke (2003), it is not taken for granted that children first learn to read before learning to write, indeed many children, hearing and deaf, develop their ability to read and write in parallel.

How does reading influence children's writing? The answer to this question can be found in gathering evidence of the effects of children's literary experience on their writing. Reading of literary texts, aesthetic reading, the role of storytelling and reading aloud are some of the factors that can influence children's language skills and writing (Barr & Cork, 2001). The nature of what students read influences the quality and complexity of their language production and as a result good readers are able to produce complex syntheses (Adams, 1994).

In exploring the way in which texts that children read influence their writing, Barr & Cork (2001) focus on literary text or as they call it 'texts that teach'. In literary work, which uses language to represent, re-create, shape and explore human experience, the reader is expected to be able to impute motives to authors (Vipond & Hunt, 1984). When reading literary texts, children experience the text, create expectations, give meaning and deepen their self-understanding (Kuiken et al 2004.). The experience of reading literary work is concerned with emotional and sensual responses and enables children to access meaning and experience the way that language creates worlds

(Styles & Arizpe, 2003). Literary texts are likely to produce aesthetic experience in the reader. In non-aesthetic reading the reader concentrates on the information gained, whereas in aesthetic reading the reader pays attention to the association of feelings, attitudes and ideas that are aroused within him (Rosserblatt, 1994):

In aesthetic reading the reader's attention is concentrated directly on what he is living through during his relationship with that particular text (p.25).

Aesthetic reading of literature promotes children's language learning process as it facilitates personal involvement and makes children think imaginatively as they begin to 'inhabit' the text (Collie & Slater, 2007).

One of the activities which can introduce children to aesthetic reading of literature is children listening to stories. Storytelling provides great benefits for language learning and in particular provides the perfect transition - for children - from oracy to literacy (Dyson, 1983). Using observations of children aged 4-7 years who were meeting with a storyteller once a week and 8-9 year old children who were meeting every other week and then asking the older children to write the stories they were told, Palmer et al. (2001) come to a number of conclusions regarding the effect that storytelling can have on both language and writing of children. They propose that storytelling, being an interactive process, improves children's understanding of story structure when composing their own stories and facilitates imagination, as children were not memorising the stories but were constructing their own understanding and creating their own imaginative stories. Although the study highlights how important the role of storytelling is, the period of observations was only 9 weeks and the person telling the stories was a professional storyteller. Thus, it is suggested here that the frequency of

storytelling as well as the ability of the storyteller have to be considered when discussing the effects of storytelling on children's language and writing skills.

The perception that children learn a lot about the structure of the written language by learning to listen to language is also evident in reading aloud which is a major way in which teachers engage children with texts (Barr & Cork, 2001). As with story telling, read-aloud activity can give children experience with understanding language, and making sense of ideas which are beyond the here and now (Beck & McKeown, 2001). In general, reading aloud to children has been viewed as an important aspect of encouraging language and literacy development (Cunningham, 2005).

Related to reading aloud to children and the effect that reading can have on children's writing and language abilities is the discussion of texts and how children respond to those texts (Barr & Cork, 2001). Getting groups of children together to talk openly and confidently about their reading of particular books can encourage them to share their enthusiasm and difficulties and make connections within and beyond the text and as a result enhance their understanding of texts and facilitate their own writing (Chambers, 1993). Discussing their reading of literary texts enables children to identify new vocabulary, construct meaning and at the same time assists them in learning about the conventions of language and written text in a natural, effective way in a social context (Elliot, 2010).

The discussion of the effects that reading can have on writing highlights the importance of the interaction with others in enhancing language and literacy skills in children. Many pre-school children experience interaction between reading and

writing sequences where the context involves their parents (Garton and Pratt, 1998). Although the extent to which each child is exposed to print varies, most children for whatever reason are motivated to pay attention to print at some point (Strickland and Morrow, 1989). A study by Blatchford (2004) looking at the predictors of writing competence in 4-7 year old children identifies home writing as the most important variable for children's writing development. Although this study provides no evidence on the effect that children's engagement with literacy at home has on writing in school, it demonstrates the importance of early engagement of children with print in their home environment. Story reading with parents teaches children about the world, promotes their learning of vocabulary and language skills and also can enhance the child's own interest in books and reading (Dale & Crain-Thoreson, 1999).

In conclusion, the discussion above suggests that there is an ongoing interaction between children's language and literacy development and that one cannot be seen as separate from the other. Within literacy children's engagement with reading is considered as the basic element of children's writing and language development:

For even as when desiring a beautiful garden, we prepare the soil and plant the selected seeds and pluck out the weeds; so should we carefully prepare children's minds, root out the tares and fill their imagination with the noble thoughts and ideas of those great books which will help the developing men or women to resist ignoble and corroding influences.

(Olcott, 2008, p.1)

But, as discussed above, if reading literary texts, aesthetic reading, storytelling and reading aloud to children are important factors influencing their writing and language skills, how does this relate to deaf children? Is deaf children's language development different and in what way? If children's interaction with their parents, with speech and

language in general is crucial for children's literacy development how does this apply to deaf children? The above questions are important issues raised in the education of deaf children and are discussed in Section 3 of this literature review.

Although the interaction with language and the effect that reading can have on writing has been discussed here, in a research study exploring imaginative writing it is important to discuss children's written work in the context of what takes place in the classroom in relation to writing.

2.3.2 Writing in the classroom

Although children are in contact with writing even before school, the teaching of writing is mainly the school's responsibility (Curto, Morillo and Teixido, 1998). In order to investigate children's imaginative writing, it is essential to gain an understanding of what children are taught in the classroom and what the expectations are in terms of their knowledge, skills and understanding in relation to writing. Since this research is engaged with children's imaginative writing in Key Stage 2, material from the English National Curriculum for writing in Key Stage 2 is discussed here. Within a balanced and coherent programme, students at Key Stage 2 should be taught the main rules and conventions of written English and start to understand how language can be used in order to express meaning in different ways, key principles as discussed by Whitehead (1997). The elements of writing that are taught in Key Stage 2 according to the English National Curriculum are: composition, planning and writing, punctuation, spelling, handwriting, presentation, language structure and purposes for writing (DfEE/QCA, 1999).

Regarding composition, children in Key Stage 2 learn to choose the right form, content, language and style to suit a particular purpose according to the audience/reader of the text. Children are expected to take part in a range of activities that vary from deciding on the topic, deciding the audience of the writing, to evaluating their own progress and having opportunities to write across the curriculum. These principles are outlined for deaf children by Luetke-Stahlman, (1999). They learn to write for different audiences considering who the reader of the written piece is (see similar discussed by Sharples, 1999). According to the curriculum children are taught how to present and organise texts/stories effectively (beginning, middle end) using a range of vocabulary in inventive ways. Other authors show how encouraging children to work and experiment with language enables them to develop their thinking and learning (Kelin, 1981) and as a result to grow better as writers and become literate (Stewart and Kluwin, 2001)

The English National Curriculum acknowledges that, in order to achieve the goals set under the composition element and to develop their writing on paper, children in Key Stage 2 should learn to plan, draft, revise, proofread, present and discuss their piece of writing. During the planning and drafting process teachers might encourage students to use planning sheets and to have a discussion in the classroom on how to develop their initial ideas from the plan into structured written text (Baker et al., 2003). Also, teaching students how to revise, check the text for spelling and punctuation and prepare a neat and clean final copy are important strategies covered in the curriculum. Although this approach consists of the stages mentioned above, they are not seen as linear and discrete stages but as interrelated (Shirmer, 2000). In this dynamic use of language, the students learn to behave as writers moving between these stages during

the writing process. This process of planning and drafting allows students to learn to think of writing as a series of circular steps rather than a linear process (Markel, 1988).

As well as teaching the students to think and behave as writers, students in Key Stage 2 should be taught the main rules and conventions of writing for punctuation and spelling. Students learn - according to the English National Curriculum - to use punctuation marks correctly, including full stops, exclamation marks, commas, inverted commas and apostrophes to mark possession and omission. Although punctuation may appear to be a small detail, paradoxically it can be the key to complex sentences, to link ideas together and to unfold and express layered thoughts with clarity (cf. Agelillo, 2002).

Under the spelling element of the curriculum children are taught the following spelling strategies:

- To sound out phonemes,
- To analyse words into syllables
- To apply knowledge of spelling conventions
- To use knowledge of common letter strings
- To check their spelling using dictionaries and spellcheckers and
- To revise and build on their knowledge of words and spelling patterns

As described by Thornton (1980) teachers draw children's attention to mistakes, urge pupils to learn the correct spelling and correct their own mistakes. The grapheme-phoneme correspondence rules that children learn in order to write conventionally are the same rules that they learn in order to read (Glecison, 1997). Having learned and

understood the above strategies in order to master spelling, they are then able to adopt a unique set of learning styles and different spelling strategies of the English language depending upon the word in question (Stewart and Clarke, 2003). Teaching spelling in Key Stage 2 is not restricted to spelling strategies but also includes the morphology of spelling: the spelling of words with inflectional endings, the relevance of word families, the use of appropriate terminology and the use of common prefixes and suffixes. A study by Treiman and Cassar, (1996) on morphology of children's spelling in Years 4-6, which examines how children write words with final consonants, reports a lot of omission errors despite their knowledge of the grammatical stems and indicates the importance of teaching morphological relations among words.

In handwriting and presentation children are taught to produce legible writing with increasing fluency and speed and also to use different forms of handwriting according to the purpose of writing. Although the English National Curriculum addresses the importance of formation and orientation of letters and speed in hand writing, a research study by Medwell et al., (2007) that assesses 186 students in a number of tasks (composition, handwriting speed and alphabet tasks) reports a correlation between composition and handwriting suggesting that handwriting is a language act and that automatic letter production is more significantly related to composition than speed or neatness.

Under the heading of language structure in Key Stage 2 children are taught the grammatical functions of words, the features of different types of sentences and the grammar of complex sentences, such as clauses. The knowledge of grammar enables children to produce comprehensible and correct text in terms of language structure

(Garton and Pratt, 1998). In the process of learning the grammatical rules that relate to the language structure teachers ask children not only to judge whether sentences follow the grammatical rules learned but also to correct the grammatical and syntactic errors they produce (Martin, 2000).

Moreover, regarding the knowledge, skills and understanding of writing in Key Stage 2, the English National Curriculum addresses the importance of teaching children a range of purposes for writing which include:

- To focus on creative uses of language by imagining and exploring feelings and ideas
- To convey subject matter in sufficient detail for the reader by informing and explaining
- To provide arguments and evidence for a subject in order to convince/ persuade the reader

Instructions, tasks and a range of different kinds of texts that can be used by teachers for implementing the above purposes of writing are provided by the National Literacy Strategy Framework (DfEE, 1998). In a series of weeks children are engaged in narrative, plays and scripts (stories in imaginary worlds, in historical settings and stories which raise issues), non-fiction writing (newspaper/ magazines, information texts and persuasive texts) and poetry. According to the above framework teachers are advised to read aloud the stories and then encourage children to work together in order to collect information from the text about the setting, the atmosphere created, particular characters and their actions in the stories. Regarding fiction writing children are encouraged to discuss the way that authors develop imaginary worlds and think what might have happened differently in the stories, exploring a range of possibilities.

These activities enable children to produce their own stories using language in creative ways and include elements of story structure such as characters, setting and conclusion, ideas also described by Luetke-Stahlman, (1999). The teaching of purpose for writing, which aims to enhance convergent and divergent thinking, is really crucial for the development of students as writers (Fasko, 2000). Students learn to act as writers: distance themselves from the text and empathise with the characters about whom they write (Cowie, 1984).

In summary, the English National Curriculum outlines the teaching of writing both as product, including elements such as the vocabulary, syntax and mechanisms (punctuation, capitalization, and legibility) and as process, where higher level skills are required to accommodate aspects such as organization, style of the written text and intention of the writer; ideas also discussed by Stewart and Clarke, (2003). Despite the fact that writing as process is embedded in the National Curriculum, a study by Hilton (2001) critically examines the way that the National Literacy strategy is implemented in Key Stage 2 and argues that even in writing as process teaching is a teacher-led session, engaged in preparing students to produce imaginative texts, but actually diminishing the time for children to compose stories on their own. She concludes :

The demand by the National Curriculum for the whole writing process must again be restored in primary practice with time allowed for children to engage with larger ideas and longer pieces of text –written mainly by themselves. Then, and only then will we see a genuine rise in writing standards (Hilton 2001 p. 11).

Concerns for the effectiveness of teaching writing are also raised in a study by Green et al. (2003), which investigates changes in narrative and discursive writing in Key Stage 2 from 1995 to 2002. They investigated the subject by using a range of marking

strategies comparing National Curriculum assessments, a range of linguistic features, markers' judgments and genre effects. They find that although the number of children achieving given levels according to the National Curriculum has risen, more mistakes in language structure were produced in narrative texts, with lower levels in the coherence/story structure achieved in discursive texts.

The way that teaching the purposes of writing is taking place in schools and in particular teaching children to use language in imaginative ways is highlighted by a research study (Dart, 2001) interviewing Headteachers in an attempt to explore teachers' conceptual understanding of imagination. Dart suggests that teachers use the term very vaguely to refer to more than one concept and that can influence children's work. Moreover, teachers' evaluation of children's creative ideas in writing is only based on the actual test scores (Runco and Vega, 1990).

In conclusion, students in Key Stage 2 should be taught both the conventions of written language but also the way to grow personally as writers in order to be confident to explore different possibilities and express their ideas:

Furthermore, if scaffolding is used to help young writers learn about using writing conventions, it must be followed by handing over the control to allow them to develop independence (Fisher, 2006, p.205).

2.3.3. Imaginative writing

The purposes of writing as these are taught in the classroom and the concept of imagination are brought together in imaginative writing. The question that this literature reviews aims to answer is: How can imaginative writing be analysed and what are the elements underpinning it? Despite the lack of standardised measures to analyse imaginative writing there is an abundance of creativity assessments. For the

purpose of the present literature review only creativity tests that are either based on imagination or include it as a division of the test are discussed here. Also, this section is looking at exploratory ways of analysing imagination and structural organisation of written stories.

Tests of creativity are influenced by the process of divergent thinking which according to Guilford (as cited in Sternberg and Grigorenko, 2001) is important to creativity. One of the tests based on Guilford's perception of creativity, which is used widely to assess creativity is the Torrance Test of Creative Thinking (1961). The definition of imagination on which it is based involves fluency, flexibility, originality and elaboration. It is designed to sample a variety of verbal and figural dimensions of creative thinking. Due to the open-ended nature of the tasks it can be described as time-consuming although its detailed manual ensures good inter-rater reliability (Stanco, 2001). Its reliability is excellent with inter-rater reliability reported in excess of .90. The test validity is also reported as excellent as it includes extensive documentation of content, concurrent and construct validity including several short-term and long-term validity studies. A study by Ferrando et al. (2007) suggests that the psychometric characteristics of the Torrance Test of Creative Thinking are satisfactory. However, research conducted by Almeida et al. (2008) examining the construct validity of the test reports that the cognitive processes (fluency, flexibility, originality and elaboration) cannot be used as the main cognitive characteristics to define and assesses imagination. To sum up, despite possible issues with construct validity the Torrance Test of Creative Thinking it is well known and widely used. Thus, the Torrance Test of Creative Thinking was used to examine the imagination

deficit hypothesis - impairment on imaginative creativity - in children with autism (Craig and Baron-Cohen, 1999).

One of the most comprehensive scales for creative thinking and imaginative writing - probably the only known one - which is based on the Torrance Test of Creative Thinking, is the Minnesota Test of Creative Thinking and Writing devised by Yamamoto (1964). It consists of two scoring manuals: one for creative thinking and one for evaluating imaginative stories written by children in grade 3 to 6 (equivalent to year 3 to 6 in the English system). It reports high test-retest reliability (.87 for the total score) over a 3 month period. The stories are judged on each of the following six criteria: organisation, sensitivity, originality, imagination, psychological insight and richness. Each criterion has five sub-criteria which are given either one or zero points according to the explanations and examples given under each of these.

Under organisation a score of 1 is given when: the story is balanced, arranged in a temporal or special sequence, consistent with the topic, length is related to meaningfulness and clearly conveys the writer's ideas. Sensitivity refers to: how sensitive the writing is to the original stimulus, the level of association of the written product with the stimulus, how relevant the ideas are to the production, its specificity to details and the empathy with the character that the writer shows. Under originality stories are scored for the level of originality on the choice of the topic according to the number of children choosing the topic, the novel ideas produced, organisation of the story, the style of writing and elements that were surprising in the story. The dimension of imagination engages with the ability of the writer to move by association away from the original stimulus, to exhibit fantasy in producing

something that cannot happen in reality, to produce abstract ideas, to include in the story principal characters identified by names and to give imaginary reasons for a phenomenon described in the story. Under psychological insight the rater is looking for evidence of functional reasons for a phenomenon, for perspectives on how and what happened, for meaningfulness and coherence of the story, for ego-involvement, and understanding of the situation taking place in the story. The last dimension of the scale, which is richness, refers to richness in expression, in the number of ideas included in the story, in emotions, in characters' curiosity and in the fluency of the story (Is the story wordy?). The presentation of the above criteria for scoring suggests that the dimensions included in the scale are in accordance with the concept of imagination as discussed in 2.2.2. Despite the fact that the test is designed to analyse creative thinking and imagination in writing at all educational levels, it uses complex tasks with non-specified content and its usefulness is impaired by lack of empirical evidence on validity (Moss and Duenk, 1967).

One of the criteria of imagination included in the above test, which also came up as an indication of imagination when discussing its meaning and concept in 2.2.2, is originality. Most of the tests that exist on originality assessment are designed to evaluate the non-conventional uses that individuals attribute to common objects (non verbal originality) and they either give no evidence for validity (for example the Creativity Assessment Packet developed by Williams, 1980) or they are designed for use with preschool children (for example the Starkweather Originality Test, 1966).

One of the few analytical scales - perhaps the only known one - to evaluate originality in children's writing was designed by Carlson (1965) based on the Torrance Test of

Creative Thinking and on the Minnesota Test of Creative Thinking and Writing. Carlson attempted to find a measure of originality by analysing 500 published samples of children's narratives, to devise the categories of the scale. By referring to 2,000 stories by middle school grade children (equivalent to Year 6 to Year 9 in the English Curriculum), she collected additional illustrations for each category. Finally, she evaluated 3,000 additional student narratives to determine whether or not she needed additional categories. Ratings range from 0 to 5. The thirty-six items grouped under the five divisions of the scale are presented below:

- Story structure: unusual title, unusual beginning, unusual dialogue, unusual ending and unusual plot
- Novel or unusual qualities: novelty of names, novel locale, unique punctuation and expressional devices, new words, novelty of ideas, novel devices, novel theme, quantitative thinking, new objects created, ingenuity in solving situations, recombination of ideas in unusual relationships, picturesque speech, humour, novelty of form, inclusion of readers, and unusual related thinking
- Emotional tone: unusual ability to express emotional depth, unusual sincerity in expressing personal problems, unusual ability to identify self with problems or feelings of others, unusual horror theme
- Uncommonness of response: unusual perceptive sensitivity, unique philosophical thinking, facility in beautiful writing and unusual personal experience
- Story style: exaggerated tall tale, fairy tale, fantasy turnabout of characters, highly fantastic central idea or theme, fantastic creatures, objects or persons, personal experience, and individual story style.

It is suggested here that some of the terms used are ambiguous, explanation and examples are not given for all of them and some elements (such as horror theme) can only be identified in specific types of writing. In a previous study, Carlson (1963) divided 217 subjects into two matched experimental and control groups for 10 weeks of instruction. The experimental group was stimulated to write by lessons exposing them to books, records, pictures, and toys, whereas the control group stimuli were limited primarily to story titles. She suggested that children in the two groups exhibited different performances according to the motivational material, the type of story and the story stimulus provided. Three independent judges used the scale to rate the stories. The inter-rater reliability of the scale between the ratings of judges 1 and 2 was .78; between judges 2 and 3, .89. Thus, the reliability of the scale is good. The scale is cited in the literature as one of the most analytical scales for assessing originality, which might be used by teachers to measure various elements in stories written by children in response to different writing instructions (West, 1967). However, there is no indication of the validity of the scale and it appears that the scale is very meticulous. It includes a large number of items with a lot of details, facts that can probably make the scale quite difficult to administer.

The only known study which utilised the Carlson scale was that by Cheung (2001) who based the Chinese Creative Writing scale for primary school students on it. The scale assesses three components of creativity: fluency, flexibility and originality. It consists of thirteen items, is easy to use and quick to administer. The inter-rater reliability of the scale is excellent with a score of .90. Although there is support for the construct validity of the scale the small size of the sample (n=69) gives space for a

lot of limitations. Therefore, due to the pilot nature of the study, further validation of the scale is needed.

So far, only scales which were designed to give a score to imaginative writing were discussed. However, there are also studies which attempt to assess imaginative writing by using an exploratory, textual analysis of children's literary texts. For example, Brill (2004) using as writing prompt a letter from a local newspaper - written by the researcher for the purpose of the study - collected 33 texts from 11 year old children. The texts were analysed, based on an imaginative and empathetic response, in three ways: writing in role (evidence that children were not writing the letters themselves but were assuming roles), imaginary scenario (evidence that children constructed alternative/imaginative worlds in their letters) and writer empathy (evidence in children's texts of understanding and imaginatively entering into another person's situation). He proposes that the above coding framework was suitable for the text analysis as he concludes that imagination and empathy appeared to be integral to children's writing. It is suggested here that despite the small sample and the exploratory and pilot nature of the study it provides evidence that textual analysis can be proven to be a useful way of exploring children's imagination in writing.

Similarly children's imaginative writing can be explored by analysing the physical, social and emotional aspects of fantasy, characters and plots that children create (Peirce and Edwards, 1988). The concept of imagination itself – exploration of various possibilities, the detachment from reality and movement into imaginary vivid worlds - can provide a framework for analysis. Thus, one of the elements that should

be evident in imaginative writing is the production of texts that allow for images to be created in the reader's mind:

The trick is that if you write in words that evoke the senses, if your language is full of things that can be seen, heard and smelled, tasted and touched, you can create a world your reader can enter (Burroway, 2007, p.3).

Burroway draws upon the foundation of imaginative writing to stress the importance of creating a world of vivid imagery and full of senses when producing an imaginative piece of writing. In her book 'Imaginative writing, The elements of Craft', Burroway (2007) provides an extensive and explicit analysis of imaginative writing and a textbook for assisting in the production of imaginative writing based on the concept of imagination. Thus, the exploration of alternative possibilities can be illustrated by entering imaginary worlds in which various human characteristics are bestowed on anything non human. Burroway calls this 'personification' and considers this figure of speech - that is an expression not meant to be taken literally - as one of the elements that involve an image and as such is an inseparable part of imaginative written texts.

In order to evaluate imaginative writing, both imagination exhibited in stories and story structure/content need to be analysed thoroughly. Textual analysis of imaginative stories mainly consists of the analysis of structure in the stories (Mandler and Johnson, 1977). The story schemes which define a story and comprise its structure have been listed by many studies (Applebee 1978 ; Garnet, 1986; Beard and Burrell, 2010) as:

- story title, which tells the reader what the story is about
- opening/ beginning of the story ,which sets the scene
- middle of the story, where the sequence of events take place

- and the end ,where it comes the solution of the events

The structure of each story can vary from very simple to very complex sequences of structural organisation. A study evaluating the structural organisation in stories written by 3-12 year olds, by breaking down the stories into their component action sequences, suggests that older children produce stories with a more complex structure than younger ones, indicating that the acquisition of narrative structures is similar to that of analogous linguistic structures (Botvin and Sutton-Smith, 1977). It is believed here that the structure of a story is a really important element, not only defining what a story is about also exhibiting the linguistic abilities of the writer.

Within the structure described above events are taking place in which characters are involved. Every story includes elements, such as: problem, attempts to solve it, and an analysis of the chain of events and description of characters' reactions to these events, which synthesizes the plot of the story (Dimino et al, 1990). The rules for parsing stories into units which have structural importance are described by Stein and Glenn (1979) as 'Story Grammar' and they are used today for analysing written stories. In the terminology of story grammar, a story should have at least a single episode with beginning, development and ending. Thus, the essential structure of a single episode is as follows:

1. setting of the story
2. initiating event, where the problem is introduced
3. internal response, protagonists attempt to solve the problem
4. consequence, result of the protagonists' response to solve the problem

A story of course can have more than one episode depending on how complicated the structure is. Although story grammar is used both by teachers and researchers to evaluate children's imaginative writing it has an acknowledged limitation in that it ignores the beliefs of characters in the story, characters' interactions, emotions, senses and fantasy (Bruce, 1978; Hertz-Lazarowitz, 2004). Mere structural analysis is unable to paint the picture and assist in evaluating children's stories:

We would argue for viewing structural analysis for what it is: one method among several for describing the kind of choices writers make in constructing texts. Sometimes structural analysis is illuminating, and sometimes it is not; but always it is only a single band in the full spectrum of elements that make up a child's story (Kroll and Anson, 1984, p. 182).

One of the elements, for example, which is not included in story grammar and which is important for the plot of story in showing the interaction between the story's characters is dialogue (Patera et al, 2008). Dialogue in stories aims to reveal the author, to advance the plot, establish the tone. According to Burroway (2007) it can be direct, that is all the words are open, or indirect and summarized without quoting direct speech.

To sum up, evaluation of the elements exhibiting imagination and the structural organisation of the stories can comprise a comprehensive framework for the analysis of children's imaginative stories. The aim of the above discussion was to provide some criteria which can be used in the present study to develop a tool that can be used for the assessment of deaf children's imaginative writing. How each element of imagination with its definition – given in 2.2.3 – can be used as the criteria for deciding which elements of the above scales and textual analysis can be adopted to develop this measure is presented below.

To evaluate how fantasy, the ‘what if’ which is represented in stories, the elements listed under imagination (to make associations away from the original stimulus, to exhibit fantasy in producing something that cannot happen in reality, to include in the story principal characters identified by names) from the Minnesota Test of Creative Thinking and Writing can be adapted. Also, ‘what if’ can be evaluated by the production of fantastic features listed under story style in Carlson’s Scale and by the use of vivid imagery as used by Burroway (2007) in textual analysis. The original elements in children’s stories and their ability to exaggerate can be reflected by the elements from Carlson’s Originality Story Scale (1965) which refer to novel qualities (novel theme of the story, exaggeration as exhibited by quantitative thinking, and ingenuity in solving situations). Children’s ability to combine fantasy with reality, which is central to the definition of imagination, can be illustrated by the element of recombination of ideas in unusual relationships listed again under novelty in the same scale. Children’s ability to enter magic worlds can be evaluated by adopting both Carlson’s (1965) and Brill’s (2004) elements of imaginary scenarios. The ability to pretend and take roles can be shown both by the production of imaginary dialogues in the stories as used by Carlson and the use of personification (Burroway 2007). For a comprehensive analysis of deaf children’s imaginative stories apart from the criteria indicating imagination, the core elements of story grammar and structural analysis of the stories should also be incorporated in the tool.

Having identified the criteria based on which imaginative stories can be evaluated, there can be a problem in applying them to deaf children’s writing as a deaf child can face both quantitative and qualitative delays in the acquisition of writing skills (Liben, 1978). To overcome this obstacle, deaf children’s stories are scrutinised and analysed

in depth - in chapter 4 - in order to explore if /which of the above criteria are applicable to their stories.

Having discussed various ways of analysing children's imaginative writing, the influence that media might have on children's imagination is discussed below.

2.3.4. Influence of the media on children's imagination

Children nowadays receive a lot of stimuli from radio, video games and television.

The influence that television can have on children's imagination generates contradictory opinions among research studies. Television can enrich children's ideas and experience from which they draw when writing an imaginative story (Valkenburg, 2001). What children watch on television or film can set in motion a new idea, a textual transformation which they can incorporate in their imaginative stories by metamorphosing it into something else (Belton, 2001). On the other hand, a study exploring children's television viewing, using 4 measures of cognitive development at the ages of 6 and 7 reports modest adverse effects of television viewing on cognitive development of children (Zimmerman and Christakis, 2005). Regarding imagination, studies exploring the possibility that television and videos can stifle the imagination or discourage children from developing their own ideas, suggest that long hours of watching television can have a negative effect on children's imagination (Parker, 1961; Valkenburg and Van der Voort, 1994). The reasons behind the negative influence of television on imagination can be found in research comparing children's creative imagination in response to radio and television stories (Valkenburg and Beentjes, 1997). Their study confirms the visualization hypothesis according to which watching stories on television, unlike listening to stories on radio,

presents viewers with ready-made visual images discouraging them from forming their own images.

Discussion about the effects that television can have on children's imagination is engaged not only around the activity of watching but also around the content of what is watched. A series of experimental studies (Singer & Singer, 2005) investigates the impact that the type of programmes watched by children has on their imagination. Using a variety of measures (eliciting original images in response to inkblots and recording their effects on imaginative play) they suggest that children who were watching more educational programmes exhibited higher imagination than children who reported watching action/adventure films or cartoons; the heroes of these programmes were the main characters in their story writing. The beneficial role of children's exposure to educational programmes is also evident in the narrative skills of preschoolers (Linebarger and Piotrowski, 2009). Although playing electronic games results in negative effects similar to those observed in viewing action films, they can also have potential benefits as they enable children to make sense of the world around them, explore imaginary worlds and fantastic abilities of characters and even to experiment with characters' aggression in a safe setting without real world consequences (Salonius – Pasternak and Gelfond, 2005).

To sum up, the current subsection presented only an overview of the vast amount of research regarding the impact that various media can have on children's imagination. It aimed to highlight the fact that the influence of media on children's imagination has to be taken into account when analysing children's imaginative writing using either scales or textual analysis.

2.3.5. Summary

In conclusion, children's writing can only be understood in the context of their developing skills in language and literacy. The effect that reading can have on children's writing and also the writing that takes place in the classroom contribute to the development of children as writers. The various tests and forms of textual analysis that have been used over the years to analyse imaginative writing can be used as the basis to develop a comprehensive measure to evaluate children's imaginative stories.

Imagination and writing can now be drawn together and discussed in relation to deaf children in order to complete the picture of deaf children's imaginative writing as this is developed in the literature.

2.4. Deaf children

The purpose of this section is to bring together the literature from the previous two sections in an attempt to explore why deaf children may or may not face difficulties in expressing imagination in writing. Language - as discussed in 2.2. - complements imagination and the two develop in parallel. How deaf children learn language, the way that language underpins deaf children's literacy development and their imagination is discussed here.

There is a large body of literature relevant to deaf children's language and literacy development. The purpose of the current discussion of the literature is not to provide

an exhaustive list but to consider major influential examples of the research in this field and facilitate the discussion.

2.4.1. Deaf children's language

Language is characterised as the systematic use of sounds (or signs) for the purpose of communication and self-expression (Crystal, 1995). A significant influence on children's language development is the language input and interaction they receive from adults (Bruner, 1983; Vygotsky, 1986). Consequently, loss of hearing at birth or at an early age deprives a child of sensory input and ultimately causes language limitations (Hoff, 2001). It is known that 95% of deaf children come from hearing families (Liben, 1978) and once a hearing loss is identified in a child, parents are faced with the decision of how they are going to communicate with their deaf child (Clark, 1989). Although many deaf parents communicate with their child from the very beginning using sign language, hearing parents frequently struggle to cope with the idea that they have a deaf child - they have to readjust their world in order to accommodate the needs of their child - and as a result might fail to communicate effectively early on (Sanders, 1988). There are different routes that deaf children can follow to acquire language: spoken or sign language may be used as the child's first language, though the acquisition of one does not preclude the other (Marschark, 2007) and some deaf children use spoken language with signs for support (termed Sign Supported English in UK).

Language acquisition of deaf children has generated a lot of research studies in the field over the years and is an issue which causes a lot of discussion and concern among teachers, parents and deaf individuals. The aim of this section is not to give an

exhaustive and detailed discussion on the language development of deaf children (this is certainly a study on its own!) but only to address some of the core factors that underlie language development (primarily in speech) in order to understand the impact that deaf children's language development might have on their literacy.

The early vocalisations that babies make (babbling) from the first few weeks or months of their lives depend on their early environment. Although hearing babies' babbling increases both in quantity and quality to develop steadily into words, deaf children's babbling appears either later or is less frequent than hearing babies (Oller, 2006). Although there is no clear evidence that children's babbling is directly related to spoken language development, the fact that parents interact and respond to hearing children's babbling and the difficulty of such interaction with deaf children might suggest that deaf babies face already a disadvantage socially and communicatively (Marschark, 2007). Hearing mothers of deaf children have been found to be more controlling in interactions with their children, but this varies across tasks, and this might simply reflect appropriate attempts to provide structure for a child with limited communicative ability (Gallaway and Woll, 1997).

In the oral language development of deaf children the acquisition of vocabulary is similar to, but slower, than in hearing children (Blamley, 2003). Having summarised research on expressive and receptive deaf children's vocabulary based on standardised tests, Lederberg and Spencer (2001) conclude that in general deaf children's vocabulary is delayed compared to hearing children's and this gap becomes wider with age. Regarding the syntactic development of oral language, deaf children reach stages of syntax at a much slower rate than their hearing peers (Sanders, 1988).

The learning of spoken language and a child's limited hearing ability can be augmented by hearing aids which increase child's awareness of sounds. However, not all deaf children benefit from their hearing aids (Minder and Vernin, 1971; Moores, 1982). Among the innovations of technology in amplification is the use of Cochlear Implants. They are provided by the National Health Service in England and so have become increasingly available for children (Archbold, Harris et al., 2008).

There is now a substantial body of evidence showing that cochlear implantation improves speech perception and production and facilitates the development of spoken language over an extended period of time (Archbold et al., 2000; Cleary, et al., 2001; Geers, 2002; Hamzavi et al., 2002; O'Donoghue et al., 2000; Osberger, 1995; Pisoni & Geers, 1998; Robbins, 2000; Tait, et al., 2001; Thoutenhoofd et al., 2005; Watson et al., 2006). There is also recent evidence (Watson et al., 2008) suggesting that children use more spoken language after implantation. However, Spencer (2004) explores the performance of pre-lingual deaf children, who had a Cochlear Implant from 1 to 3 years of age, using language assessment, cognitive assessment, speech perception assessment and parental interviews. She concludes that independently of the early implantation, deaf children's language skills were not in line with the range expected for hearing children. Indeed, Cochlear Implants provide greater access to sound for deaf children but bearing in mind the heterogeneity among the deaf population their use might not be beneficial to all deaf children's language development.

Within the approach for deaf children to acquire oral language speech reading (the use of visual information from the lips and face) is used and the emphasis is put on

Hearing Aids and Cochlear Implants in order to maximize the use of the hearing a child might have (Watson, 1998). A review of studies in speech perception and spoken word recognition by Bernstein and Auer (2003) suggested that in the acquisition of spoken language even children with minimal auditory information can benefit from speech reading. However, for deaf children to understand spoken language might be a challenge as:

Visual cues are ambiguous with respect to speech- the mapping from visual cues to words is one-to-many (Goldwin-Meadow, 2005, p.56).

It is suggested that information received from speech reading might not be sufficient to allow children to learn spoken language (Conrad, 1979; Summerfield, 1992). These opinions may suggest that deaf children who are good at spoken language may benefit from speech reading but this might not work where they do not already have spoken language skills.

Although it might be very difficult for severely-profoundly deaf children to become fluent in oral language (Goldwin-Meadow, 2005) the task of learning to speak may be easier for those children with lesser hearing loss (Marschark, 2007). Another development that is expected to promote deaf children's spoken language is very early identification of hearing loss, which allows for early intervention and early amplification (Marschark and Spencer, 2006). Also, nowadays the majority of deaf children in the UK receive support and instruction in the acquisition of oral language as they are educated in mainstream schools and receive assistance from Teachers of the Deaf (Powers, 2001). On the other hand, research regarding the support that deaf children receive in schools demonstrates the children's difficulties in understanding the spoken language of teachers and peers (Jarvis, 2003). Moreover, studies show

that contact with hearing peers did not affect the speech of deaf children although positive personal advantages are identified such as social and academic inclusion (Most et al., 1999).

Of course, some deaf children learn to communicate primarily through the use of signed language. There is much of interest in the development of signed language in relation to speech but this study focuses on children who use spoken language.

To sum up, research on deaf children's language acquisition does not provide a clear picture as there are a lot of influencing factors involved. Spoken language development of deaf children may be more possible nowadays than ever with early identification, early intervention, a better understanding of early language acquisition, and technological advances in devices to improve hearing, while other deaf children may use signed language. . What seems the key to language acquisition for deaf children is not the choice between spoken words or signs or the use of both but the frequent and regular communication interaction between deaf children and adults:

Regardless of the method – signed or spoken – deaf and hearing children need to have consistent access to a natural language if they are to have the tools necessary for becoming literate and getting a comprehensive education
(Marschark, 2007, p. 91)

2.4.2. Deaf children's literacy

Despite the vast number of research studies conducted over the years in this area the picture of deaf children's literacy is the same: the great majority of deaf children face difficulties, lagging behind hearing peers in both reading (Allen, 1986; Conrad, 1979; Lane & Baker, 1974; Lewis, 1996; Moog & Geers, 1985) and writing (Mayer, 1998, 2007).

Why do some deaf children find literacy such a challenge? Although there is not a clear and neat answer to this question, in an attempt to find an answer, the following are discussed here: factors that underpin reading performance of deaf children, the impact of Cochlear Implants on literacy, parents/deaf children's interaction with literacy and deaf children's attainments in writing. One way of considering the skills that all children, hearing or deaf, require for literacy is to think of them as 'outside-in' and 'inside-out' skills (McCardle et al., 2001). Outside-in skills comprise the knowledge of language, vocabulary and world experience that the children bring to reading and writing, whereas inside-out skills are knowledge of print concepts and phonological awareness. The following studies show that deaf children may have difficulty with both types of skill and this may impact on their writing.

Considering the strong connection between language and literacy and that oral language underlies literacy it is not surprising that some deaf children might struggle with reading and writing since, as it was seen 2.4.1, it is very difficult for some of them to acquire spoken language. In relation to deaf children's writing development, both Mayer (2007) and Watson (2009) show from studies of deaf children's early writing that they demonstrate show the same early characteristics of writing development as hearing children, forming hypotheses about text and producing samples of early writing that are indistinguishable from those of hearing children. However, when they attempt to produce texts using more complex language their own language development impacts on their writing (Mayer, 2007).

Two key components - knowledge of spoken language and phonological awareness - have been found to underpin the development of literacy (Bowey & Patel, 1988; Dickinson, McCabe, Anastasopoulos, Peisner-Feinberg, & Poe, 2003). This is similar to the outside-in and inside-out concept discussed above. A longitudinal study by Harris & Beech (1998) on reading finds that, between the ages of 5 and 7 years, speech intelligibility, phonological awareness and language comprehension predicted reading development. Also, similar to the role that speech reading might play in the oral language of deaf children – seen in 2.4.1 - the complementary roles of speech reading – as a mediator of phonological awareness – and knowledge of English, especially English vocabulary, is illustrated by the finding from Kyle and Harris (2006). They suggest that speech reading was the strongest predictor of single word reading ability, whereas vocabulary knowledge was the strongest predictor of written sentence comprehension. If it is accepted, as discussed earlier in the chapter, that reading and writing are interrelated, then these factors can be assumed to also influence the development of writing.

It was seen in 2.4.1 that together with speech reading Cochlear Implants, providing better access to sound, are likely to play an important role in spoken language abilities of deaf children. Evidence concerning the impact on reading and writing has been inconsistent (Archbold, Harris et al., 2008; Marschark, Rhoten, & Fabich, 2007). Research studies investigating the literacy development of children with Cochlear Implants show higher levels in literacy than attainment levels that have traditionally been recorded for deaf children (Watson, 2002). Subsequently, the performance of Cochlear Implant users, on various language and literacy measures, has been compared favourably to an age-matched group of children with normal hearing

(Spencer, Barker and Tomblin, 2003). A recent research study (Archbold et al., 2008) focusing on the reading abilities of deaf children after implantation, not only reports better reading attainments of deaf children with Cochlear Implants but also stresses the importance of early implantation for the reading achievements of deaf children. By examining children at 5 and 7 years post-implant, they conclude that only the children who were implanted before the age of 42 months, showed the same reading progress as their hearing peers at both assessment points whereas this was not the case for children who were implanted later. However, evidence from another study, which was a follow-up study from their earlier study by Geers et al. (2008) suggests that early levels of attainment tend not to be sustained. They were able to follow up 26 of the children assessed in an earlier study (Geers, 2003) and found that, although they were reading at an age-appropriate level when they were 8-9 years old, they had an average reading delay of 2 years by the time they were 15-16 years old. This suggests that early reading success following a Cochlear Implant may not be sustained in the final years at school, although these results should be viewed with caution since they were only able to follow up fewer than 50% of their original sample.

Regarding the way that reading affects writing it was seen in 2.3.1 that different ways of children interacting with reading (story book reading, reading of literary text, storytelling, aesthetic reading) can have an impact on the development of children as writers. This interaction of children with reading can also be used with some modifications to facilitate deaf children's writing. Regarding shared reading with deaf children in the classroom, Stewart and Kluwin (2001) suggest that the following should be addressed:

- all children should be able to see the book
- the teacher should connect the ideas included in the book with children's pre-existing knowledge
- comprehension of what is being read (or signed) should be frequently monitored
- reading of the story more than once for acquisition of meaning, vocabulary and syntax

In relation to writing in the classroom, Jarvis et.al (2003) suggest that teachers can use a number of ways to enable deaf children to become independent writers such as:

- encouraging children to create different scenarios for example by giving them a plastic spider or doll
- reading fiction stories to them (at an appropriate level)
- giving them chances to act out stories they have been told and
- assisting them in developing alternative endings and events in stories they know

All these activities can promote the limited experience of writing stories that deaf children have when entering school and enable them to write imaginatively.

Whilst the influence of school is recognised, it was seen in 2.3.1 that parents' interaction with children plays an important role in their language development. The same applies to the interaction that parents and children have around reading. In a study by Heineman-Gosschalk and Webster (2003) exploring parents' interaction with books with their children, parents reported problems in effectively interacting with their deaf children as it was difficult for them to keep their attention during the activity of reading and to motivate them. However, these results cannot be

generalised for the whole population of parents of deaf children. The parents who took part were all hearing and the methods employed in this research were questionnaires (that were completed by parents) without any observation at home. In another study (Aram et al., 2006) in which storytelling and joint story writing were investigated as predictors of early literacy, it was found that storytelling related to linguistic skills whereas writing mediation related to alphabetic skills. The importance of book sharing for the writing development of deaf children is highlighted in other studies also exploring the interaction between parents and children. Whilst engaging in joint reading, children can learn features of text, structure of stories and aspects of composition that they can bring to their own writing. In a study (Watson and Swanwick, 2008) which involved parents of deaf children using oral communication and parents using British Sign Language, differences in the way that reading story books was approached by these two groups are identified. Parents using spoken language with their deaf children concentrated more on the features of the text, drawing the attention of the child to individual words and letters, and concepts about print without paying a lot of attention to the story line of the book as a whole. On the other hand, parents using British Sign Language used the book more as the starting point for discussing wider issues with their children. It was concluded that professionals working with parents of deaf children need to encourage them to focus on features of text and also on using the book to stimulate discussion. These findings are in accordance with an earlier study on deaf children (Janjua et al., 2002) in which although parents valued book reading they made little effort to expand the topic of the book and engage in further discussion. Also, Stobart and Alant (2008) conclude that the role of the parents in story reading is directive, focusing on information sharing (pointing to the pictures when saying the story and

labelling the pictures) rather than trying to develop meaning within the story context. Indeed, regardless of the different approaches that parents adopt when engaging in reading activities with their deaf children, deaf children's interaction with story books, story telling and having stories read (or signed) to them is really important for their development as writers.

It was seen in 2.3.2 that children in schools should be taught both the language conventions and the purposes for writing in order to develop as writers. Regarding the use of conventions of written language, deaf children frequently lag significantly behind children with normal hearing (Moores, 1978). In an attempt to explore the external factors that influence deaf children's literacy, Turner and Traxler (1997) attribute part of the difficulty for deaf children learning to write conventionally to the fact that these children come to school with a language delay, they lack the foundation upon which literacy can be built. Concerning deaf children's structure of writing, phrase structures were under-represented, though determiners and pronouns seemed to present the least difficulty and the verb phrase the most (Gaughan and Stone, 1983). It is suggested that deaf children produce shorter and simpler sentences in which there are more verbs, noun or adjective and less prepositions, articles and conjunctions (Webster, 1986).

Despite the underachievement of deaf children in written language conventions highlighted by the research studies above, the evaluation of the purposes of writing - as these are taught in school - paints a different picture. A study (Everhart and Marschark, 1988) looking at the purpose for writing and the conceptual structure of the stories of deaf children aged 7-15 concludes that, although deaf children produced

spelling and grammatical errors, their stories were rich in ideas and events and demonstrated creativity. However, there was no indication of any differences in their writing production according to children's age. Consistent with the above study is a longitudinal study conducted by Ewoldt (1990) using a number of tasks (writing a letter, writing a story, reading the written story, reading a book, retelling a book, dictating a story and reading the dictated story) in which she concludes that over time deaf children exhibited similar behaviours in writing to hearing children. She suggests that if children engage in various reading activities, for example being read to, they are capable of formulating their own stories and including fantasy in them.

To sum up, although some deaf children may face difficulties in reading and writing there are others who are able to develop phonemic awareness, use speech reading, benefit from technological devices and from interaction with their parents and teachers and as a result achieve competent literacy. Also, when deaf children are given opportunities to interact with reading in various activities in the classroom they are able to develop as writers despite not being fluent in English spelling and grammar.:

Most significantly we know that deaf children have the cognitive ability to become proficient readers and writers, and that we do not have to wait for some arbitrary level of language development prior to initiating reading and writing instruction. Indeed we know that literacy and language are interrelated and that learning environments that encourage the development of literacy also encourage the development of face to face language, and vice versa (Schirmer, 2000).

Having discussed deaf children's language and literacy achievements the next section aims to discuss deaf children's imagination in order to explore why deaf children may or may not exhibit imagination in their writing.

2.4.3. Deaf children's imagination

Discussion on deaf children's imagination focuses on the elements that were identified in hearing children's imagination (discussed in 2.2.2): indirect/flexible/abstract thinking, non-literal symbolic use of language, pretend play and Theory of Mind.

Research on abstract thinking in deaf children has switched over the decades from considering deaf people as 'inferior' to 'concrete' to 'intellectually normal' (Parul, 2001; Moores et al, 2001). The difficulties that deaf children might face in abstract thinking can suggest a difference in the way that deaf individuals process information (Savage et al, 1983; Marschark, 1993). In a review of empirical studies of deaf people's performance on non-verbal cognitive tasks, Furth (1964) suggests that deaf people can perform similarly to hearing people and that the poor performance of deaf people on some cognitive tasks observed in earlier studies can be attributed to relative lack of experience. Different early experience in both the social and academic context can affect deaf people's abstract thinking and as a result how their minds and brains work (Marschark, 2007). Some of the early studies performed by Kaltsounis (1970) comparing hearing and deaf children on divergent thinking and their abilities to explore various possibilities come to the conclusion that there was no difference between the two groups. Halpin et al. (1973) using the Torrance Test of Creative Thinking compared creative thinking abilities of blind and deaf children. Their findings reveal no difference between these two groups. Using the same test Johnson (1977) researching deaf and hearing adults reports a strong effect of hearing status on fluency, flexibility and elaboration. However, deaf adults did not score lower than hearing people on originality. A recent study conducted by Ebrahim (2006) with both

deaf and hearing children, using the same Torrance Test of Creative Thinking, concludes that the performance of the two groups were similar and that hearing children scored higher than deaf children in only one (Abstractness of titles) out of the six variables. These findings support the fact that deaf children do not perform worse in originality than hearing children but what does affect scores is the fact that deaf children as a group are heterogeneous with a lot of factors playing a vital role in their performance.

Deaf children's ability to explore various situations has been assessed using problem-solving tasks. Marschark and Everhart (1999) in their study included thirty-six deaf and thirty-six hearing students and involved them in problem solving tasks. They found that deaf children used less efficient strategies in order to solve the problems and they conclude that maybe deaf children used different approaches to problem-solving situations.

In the use of symbolic language by deaf children and their ability to express imagination there is little consensus between research studies. A study (Wilbur 1977) on verbal expression of imagination by deaf children judging by the additional instructions that deaf children needed in order to use symbolic language considers them to be stilted or unimaginative. The difficulties that deaf children face in symbolic language are also highlighted by a study using tasks assessing figurative language and are attributed to many variables including the multiplicity of the meaning of words (Luetke-Stahlman, 1998). In contradiction, an older study (Kaltsounis, 1970) on symbolic/ non-literal language tested 418 deaf and hearing children both boys and girls using the subtest from the Torrance Test of Creative Thinking 'Thinking Creatively with Words' and concludes that deaf and hearing

children scored equally. However this study did not control for age and degree of hearing loss. In agreement with the study by Kaltsounis, Marschark and West (1985) tested non-literal language of deaf children when signing stories. They conclude that deaf children do produce figurative language at the same rate as hearing children. Although their sample was very small (four hearing and four deaf children) this research highlights the ability of signing deaf children to produce non-literal language. A study conducted by Everhart and Marschark (1988) regarding non-literal constructions of deaf children reveals that hearing students used more non-literal constructions in written stories than deaf children but the latter used more non-literal constructions in oral stories

Apart from the use of symbolic language children's first manifestation of imagination - seen in 2.2.2 – is pretend play. Schirmer (1991) in her study compares a group of deaf children with a group of hearing children by observing the interaction between mothers and children in symbolic play and the kind of relationship that was formed between them. The findings reveal that the deaf toddlers matched and sometimes exceeded the hearing toddlers in the amount of time spent in play as well as in the production of consequential play and pre-planned play. Although the sample in the research was small and engaged only deaf children of deaf parents, the findings are still very important as they suggest that deaf children can actually engage in symbolic play. However, research studies on social pretend play (Brown et al, 1997; Selmi and Rueda, 1998) suggest that although deaf children do engage in pretence their play episodes are based more on themes of everyday activities and less on symbolic/fantasy theme topics compared to their peers. Thus these results suggest that deaf children's engagement in imaginative behaviours might be related to their language

development level (Schirmer, 1989). Complementary to this research are the findings by Lyon (1997) who states that children with higher language abilities were engaged in more frequent symbolic play. The link between expressive language and play and the role that language plays in the development of high-level symbolic play is also highlighted by Spencer (1996).

Regarding deaf children's Theory of Mind, a research study performed by Peterson and Siegal (1999) investigating understanding of false belief in autistic children and deaf children of different backgrounds concludes that signing deaf children of hearing parents performed as poorly as autistic children whereas the performance of oral deaf children of hearing parents did not differ significantly from signing deaf children who had at least one fluent signer at home. These findings come in contradiction to Courtin's research (2000) which suggests that signing deaf children of hearing parents performed significantly better than oral deaf children. Research studies employing various research methods for investigating deaf children's Theory of Mind also come to different conclusions. An experimental study (Courtin and Melot, 1998) using perspective-taking abilities, appearance-reality distinction and false belief tasks concludes that deaf children (age from 5-8 years) of deaf parents perform at the same age as hearing children while deaf children (both signing and oral) of hearing parents did lag behind. However, a study carried out by Marschark et al. (2000) proposes not only that deaf children do not lack Theory of Mind but that they also exhibit it at a greater degree than hearing children. Nevertheless, participants in this study were 9-15 years, much older than in the previous studies and there was no indication of the hearing status of their parents. Peterson and Slaughter (2006) also state that signing

deaf children seem to progress through similar stages in the development of Theory of Mind as their hearing peers but this process can be delayed.

To sum up, research on deaf children's imagination has provided contradictory results. It seems that there is more agreement among the studies that employed methods not involving the use of language that deaf children do exhibit efficient imagination. Nevertheless, there is less consensus among studies involving language in testing. This is in accordance with the theory discussed earlier in this chapter regarding the parallel development of language and imagination. Overall, it is suggested that deaf children do not lack imagination when they are assessed using measures appropriate to their language levels.

2.4. 4. Summary

This chapter aimed to address the issues around language, literacy and imagination of deaf children bringing together literature from previous sections. Studies on deaf children's language and literacy development do not show agreement. Depending on the methodology employed, studies underline various factors that might influence children's language and literacy. However, there does seem to be agreement on the positive effect that early identification and intervention, parent/child interaction, technological devices which improve access to sound, early exposure to spoken or sign language and support in school have on children's language and as a result on their achievement in literacy. Parents' hearing status (deaf or hearing) does not seem to be the primary determinant of children's language but rather it is the access to language that these parents provide for their children.

The way that reading affects deaf children's writing seems to be the same as in hearing children. However, it is not clear whether knowledge of spoken English and phonological awareness determine reading in deaf children. What is clear is that a good language base (oral or sign) plays a crucial role in their reading and writing achievements. Moreover, opportunities for deaf children (both in school and at home) to interact with written text (storytelling, storybook reading, reading to them) and to explore different possibilities through acting out and role play can affect their development as writers and their imaginative abilities. Deaf children can become independent writers through having acquired a good knowledge of language, being taught both the conventions of written language and purposes of writing and given the opportunity to write and express their ideas.

Studies on deaf children's imagination examining symbolic play, linguistic flexibility, imaginative play and Theory of Mind provide contradictory results. Depending on the methods used to examine the above and whether language is involved in the assessments, different conclusions are drawn. However, they all seem to illustrate that when assessments do not involve language or when they are performed in accordance with deaf children's language levels deaf children are able to express their imagination both as speech or sign production and in writing.

Before concluding this literature review it must be stressed that although there is a vast body of contemporary research on language and literacy development of deaf children, literature on imagination of deaf children is dated. Why recent studies concentrate more on language and literacy of deaf children and not on imagination, which is part of children's cognitive development, is not clear and only speculations

can be made here. It is speculated that due to the fact that language and literacy are so important for children to function effectively in a literate society researchers are eager to find out why deaf children - despite all the attention and effort that is paid by researchers, teachers and parents to this issue - are still facing difficulties in this field. Also, it might be that based on these difficulties and on the heterogeneity of the deaf population, researching a conceptually difficult topic such as imagination can be a daunting task.

The discussion of the above literature constituted the theoretical framework on which the methodology of this research study is based.

CHAPTER THREE

METHODOLOGICAL APPROACH

Research may be characterized as methodological investigations into a subject or problem. To research is to seek answers that involve understanding and explanation, whereas the credibility of its outcomes will rest heavily upon the conduct of the investigation (Williams and May, 1996, p. 7)

The breadth of educational research is immense. It refers to the systematic and critical inquiry into matters which directly or indirectly concern the learning and teaching of children and adults (Powney and Watts, 1987). This chapter will present the research design of the thesis and discuss some of the methodological considerations underpinning the research questions. However, before delving into the methodology of the actual study it is important to examine the different epistemological paradigms underscoring educational research.

3.1 Epistemological Paradigms

The research process includes different epistemological assumptions which imply different research traditions known as different paradigms. A paradigm is the sum of conceptions of problems and methods shared by different research communities (Walker and Evers, 1970). More specifically, paradigms can be considered as attitudes of mind for scientific communities that direct them through theories and methods in order to solve defined problems (Usher, 1996). The two main epistemological paradigms with which educational research is employed are: positivism and hermeneutics (Robson, 2002).

This philosophical position is attributed to the nineteenth century French philosopher, Auguste Comte (Pring, 2000). The primary argument of positivism is that experience is the base of genuine knowledge. Therefore, objective knowledge can be obtained only through experience and observation which is the only true knowledge. Only facts are accepted and whatever is invisible and cannot be observed is rejected as not being objective (Robson, 2002). So, the researcher keeps a distance from the objects of the research and is not allowed to make judgements for them. This view also implies the separation between “values” which have to do with the researcher and “facts” which are the world and therefore are the “objective” (Usher, 1996).

Taking as a starting point the fact that there is an objective social reality; positivists defend the statement that when something is important it can be measured accurately and defined clearly. That being the case, positivism makes use of quantitative data which derives from strict rules and procedures (Robson, 2002). According to positivism there is no difference between the methods of natural and social science. Thus, positivism argues that natural sciences are the model of all sciences and that its methodology is applicable to the investigation of the social world as there is order and reason in it (Delanty, 1997).

Presenting a different perspective from the positivist approach and its way of thinking, is the hermeneutical paradigm. The origins of word “Hermeneutics” takes us back to Greek myths in which Hermes was the messenger of the Gods. The interpretative process of communication is implied by this methodological paradigm (Delanty, 1997). One of the fundamental assumptions of hermeneutics is the necessity of interpretation in social sciences, the necessity of paying attention to the meaning of the

subject's behaviour. Explanation and knowledge can be gained only by comprehending and uncovering the meaning of human behaviour (Fay, 1996). It is well known that interpretation cannot be linear. Therefore, the basic argument of the hermeneutical approach is that the whole is more than the sum of the parts. So, research falling into this approach cannot just rely on parts of the reality but it has to be an in-depth study in which ideas are defined and relationships are explained (Kincaid, 1996). The interpretation of a part of something depends on interpreting the whole, whilst interpreting the whole depends on interpreting its parts. This is called the hermeneutic circle of interpretation (Usher, 1996). The hermeneutic circularity of interpretation has to take place against a background of assumptions and presuppositions. The process of understanding meaning relies on a prior understanding and on the description of the context in which the action takes place (McEwan and McEwan, 2003).

Hence hermeneutic approaches tend to use qualitative methods such as interviews, observations and narrative accounts which allow the acquisition of multiple social perspectives:

Qualitative data have been described as an 'attractive nuisance'. Their attractiveness is undeniable. Words, which are by far the most common form of qualitative data, are a speciality of humans and their organizations. Narratives, accounts, and other collections of words are variously described as 'rich', 'full' and 'real', and contrasted with the thin abstractions of number (Robson, 2002, p. 455).

Qualitative research is employed with an in-depth analysis and interpretation.

The emphasis of qualitative research is on "how" the social experience is constructed and on attempts to attribute meaning to it by looking at the setting in a holistic way (Denzin and Lincoln, 2003). One of the main features of qualitative data is the

richness of data and the in-depth description that they provide as they stay close to the empirical world (Miles and Huberman, 1994). In qualitative research, concepts and understanding are formed by the data itself. Also, qualitative researchers believe that there is knowledge in every setting and group in the sense that things can be similar and unique at the same time (Taylor and Bodgan, 1998).

To sum up, it is crucial to stress that consideration of different epistemological paradigms is important for all researchers. The two epistemological paradigms that have influenced the majority of research studies are: positivism and hermeneutics. Positivism begins with the notion of objectivity in the research and assumes that there is a unity of methods. On the other hand, hermeneutics argues that there exists interpretation in social sciences and that the context in which action takes place is crucial. Nevertheless, Cohen and Manion (1980) suggest that social scientists are beginning to move away from the dilemma between positivism (quantitative research) and hermeneutics (qualitative research). They are concerned more with that combination of both which makes use of the most valuable features of each.

3.2 The Methodology of the Research

The focus of this research project was to explore deaf children's imaginative writing and add to the knowledge of this under-investigated area. Due to the fact that no known tool exists to assess deaf children's imaginative writing the present study aimed to develop one for the objective evaluation of deaf children's imaginative writing. The use of either epistemological paradigm presented above would be appropriate for the present study. However, the most appropriate methodology for the present research

was considered to be a combination of the underpinning epistemologies and of their research methods.

Mixed methods research is considered as the third choice of epistemological paradigms and as a way of eliminating the conflict that exists between the two paradigms (Hanson et al., 2005). Mixed methods research is based on the combination of both qualitative and quantitative studies. Thus, the former types of study give an in-depth description of the phenomenon whereas the latter examine causal relationships which can probably be generalised using statistics (Pluye et al., 2009). The use of both methods can enrich the results of a study in a way that one form of the data cannot.

The epistemological paradigm which was adopted in this research study and on which mixed methods research is based is pragmatism. Pragmatists do not believe in the conflict between objectivity and subjectivity as these are supported by positivism and constructivism. They believe that there is continuity in the epistemological issues rather than a contrast. Regarding their ontology:

Pragmatists deny that Truth regarding reality can actually be determined. They are also unsure if one explanation of reality is better than any other (Teddie and Tashakkori, 2009, p. 92).

They abandon the assumption that everything is explained by an external system (Morgan, 2007). Pragmatism can raise issues on how feasible it is to combine quantitative and qualitative research. However, Robson (2002) suggests that within the pragmatic approach the elementary principles of qualitative and quantitative research can be compatible in the sense that reality can be multiple and complex and that any kind of data can be explained using more than one theory.

Mixed methods research can employ the following different research designs based on the data collection procedures used (Greene and Caracelli, 2003):

- Under *sequential* procedures three research designs are identified: explanatory, exploratory and transformative (priority is given to either quantitative or qualitative data according to the preference of the researcher)
- Under *concurrent* procedures there are different research designs: triangulation, nested and transformative (quantitative and qualitative data are collected and analysed at the same time).

The distinction is made based on the sequence in which quantitative and qualitative methods are used for the collection and interpretation of the data (Hanson et al., 2005). The research design used in this research study was exploratory. Exploratory design is used when there is little knowledge in a specific area and a phenomenon needs to be explored qualitatively before it can be measured or tested (Stebbins, 2001). Data analysis is connected and both methods (qualitative and quantitative) are used for interpretation and discussion (Piano Clark et al., 2008). As presented in Chapter 2, deaf children's imaginative writing is an area that little is known about and in order to measure it qualitative data is needed. For that reason four deaf children's stories (presented here as documents) were used to provide an in-depth analysis of their narratives and of the background information about the children. The aim of this in - depth analysis was to identify features that indicated imagination in children's stories. These features were later used to develop the "Imagination Story Scale" which is presented explicitly in Chapter 5. For the results and interpretation of the data both methods (quantitative and qualitative) were then related and connected.

3.3 Data Collection Tool

All craft persons, be they artists or carpenters, need tools to help them with their work. The tools are used as extensions of the body and enable the users to carry out their work (Strauss and Corbin, 1998, p. 87)

In the same way that all crafts people need tools to help them with their work, researchers use data collection tools to help them. The data collection tool used here in order to answer the research question regarding the assessment of deaf children's stories was documents (written stories). The research questions regarding the factors that can affect deaf children's writing were answered by using teachers' interviews as the data collection tool.

3.3.1 Documents

What is a document? According to Briggs (2002) a document can be a curriculum document, a scheme of work and course handbook, textbooks and worksheets, pupils' written work and much more. According to Rose and Grosvenor (2001) documents may be regarded as physically embodied texts, where the containment of the text is the primary purpose of the physical medium. Based on the classification of the documents in this research the documents to be used are those produced just for the needs of this research project.

For this type of research the development of the data collection tool consisted of finding the appropriate way to obtain written language samples from children. As Paul (1998) states, to elicit writing samples, one of the methods employed is free-response. In free-response studies, students are required to produce spontaneous samples of writing, after some kind of stimulus is given to them. The way the data collection tool

was formulated in this study was not to give them a visual stimulus such as pictures and films but a prompt that would stimulate their imagination.

Each child who participated in the study was asked to produce three stories at three different times during an academic year. The first story was obtained around November, the second in March and the third in June. The topic of each story was chosen on the basis of giving the children enough stimulation to express their imagination in writing but without unduly influencing their ideas. They were free to write their own title and the time they had to complete the task was fifty minutes. No other visual or oral stimulus was given. For all three stories these additional instructions were given: *“Don’t worry about spelling or grammar and if you don’t know a word you can write it as you think it is written”*. This sentence was used after each topic was presented to the children. The purpose of this instruction was to make the children focus on their ideas without worrying about grammar and spelling.

At this point it is crucial to mention that children were not given titles but the instructions - in speech and signs - presented below (the titles are used here just for classification for the reader):

1. Magic power

The instructions given to them were as follows: *“Imagine that you have magic powers and that you are able to be or do whatever you want. You have to write a story about you and your magic power. You can have one or more magic power”*.

The above title was chosen as it is a very broad subject and gives opportunity to the students to produce various ideas without restricting them. Due to the limited vocabulary that some students had, explanations about the meaning of the word “power” had to be given. However, all the children were familiar with the word magic as it appears in a lot of fairy tales and well-known children’s stories.

2. *My own island*

The instructions given to them for this title were as follows: *“Imagine that you just found an island. This is your own island and it can be as you want and wherever you want. It is an island of your imagination and is your island. You have to write a story about you and your own island”*.

The above title was chosen as it gives opportunity to the students to create their own adventure and produce a very imaginative story. The notion of “island” was explained to them by showing an island on the globe and initiating discussion regarding islands that the children had visited.

3. *The day I changed into an animal*

The instructions given to them for this title were as follows: *“Imagine that you wake up one day, you go to the bathroom, you look at yourself in the mirror and you are an animal. You can be whatever animal you want. You have to write a story of yourself being an animal for one day”*.

The above title was chosen because they had already written imaginative stories on very vague titles so it was thought that a more structured one was needed to test the

expression of their imagination. This title was very straightforward and no further explanation was needed.

3.3.1.1 Reasons for using documents as the data collection tool

One of the methods to obtain data about children's writing is to collect texts. Qualitative data are collected in the form of words rather than numbers. Narrative accounts, and other collections of words are variously described as 'rich', 'full' and 'real' (Robson, 2002). In this research, documents were used as sources in order to generate characteristics that exhibit imagination. On these features the "Imagination Story Scale" was based and developed.

As Hodder (1998) suggests, different types of documents have to be perceived in the context in which they were produced. Thus, children's imaginative stories need to be understood taking into account the fact that they were produced for the purpose of the present research study and within the classroom setting. Engaging in qualitative research means that the researcher is particularly concerned with the context and the setting of the production, which means that imaginative writing can best be understood in the classroom. That being the case, the environment in which the stories were collected was the child's classroom and the people who asked them to write the story were the researcher and their teacher.

3.3.1.2 Why documents and not an existing test?

Although there are scales which explore children's imagination on specific tasks, the aim here was not to explore imagination in general but how imaginative ideas were expressed in written texts. As was discussed in Chapter 2 although scales which

include imagination in their divisions exist, most of them are very detailed; not designed to be used by teachers and they are not appropriate for deaf children. The tests that actually test imagination are concerned mostly with non-verbal imagination. By asking children to produce stories using their imagination, they were free to express themselves in the way they wanted without worrying about correct spelling and grammar.

3.3.2 Interviews

Driven from the research questions, the attention of this research was placed not only on pieces of imaginative writing produced by deaf children but also on the identification of some of the possible factors that can contribute to children's performance. Therefore, teachers' attitudes and perspectives towards deaf children's imaginative writing were extremely important. In order to obtain this important information, interviews were used. The teachers who took part in the interviews were the Teachers of the Deaf (7 overall) of the deaf children included in this research study. It was decided that by interviewing these teachers valuable information could be gained for the performance of the deaf children in the sample.

As a distinctive research technique, the interview may serve different purposes. It may be used as the principal means of gathering data, as an explanatory device to help identify variables and relationships or may be used in conjunction with other methods in order to validate them (Cohen and Manion, 1989). Teachers' interviews here played a supportive role and were used together with the main data collection tool (documents). The analysis of the interviews and the information gained were used with the results of the quantitative and qualitative analysis of children's stories as

complementary in order to gain a broader picture of deaf children's imaginative writing.

Although, another data collection tool, such as observation, could have been used in order to obtain information concerning the attitudes of teachers towards deaf children's imagination and the way they promote it in the classroom; observations do not always guarantee detailed, repeated, and prolonged involvement in the life and community of the respondents (Mertens, 1998). Interviewing is one of the most common and powerful ways used to try to understand other people (Fontana and Frey, 1998). The interview as a research method, according to Silverman (1998), typically involves a researcher asking questions and receiving answers from the people interviewed and is defined as a two-person conversation initiated by the interviewer for the specific purpose of obtaining research-relevant information. Interview methodology begins from the assumption that it is possible to investigate elements of the social world by asking people to talk, and to gather or construct knowledge by listening to and interpreting what they say and to how they say it (Mason, 2002).

It was mentioned above that the purpose of the teachers' interviews was to achieve an insight into the teachers' perceptions of deaf children's imagination and teachers' actions to enhance deaf children's imaginative writing. Regarding the dilemma about which type of interview better served the purpose of this research; a semi-structured interview was preferred over an unstructured interview:

A semi-structured interview is an in-depth, "qualitative interview", a thematic, topic-centred approach in which the data are generated via the interaction, aiming to develop ideas rather than to gather facts and statistics (Mason, 1996, p.62)

Rather than having a specific interview schedule or none at all, an interview guide may be developed for some parts of the study in which, without fixed wording or fixed ordering of questions, a direction is given to the interview so that the content focuses on the crucial issues of the study (Burns, 2000).

Bearing in mind the above, the selection of the semi-structured interview was based on the fact that both the interviewer and the interviewee are allowed more freedom and it can produce information that might not be derived from a more structured situation. It was decided to interview the teachers following the collection of the three stories from each child. In this case the interviewer was able to consider beforehand the general thematic areas as these derive also from stories the children produced. Moreover, the use of open-ended questions allowed the interviewer to probe, go into detail and clarify misunderstandings and also analyse and discuss further issues that derive from the respondent's answers (Cohen and Manion, 1994).

One important factor in qualitative interviewing is the creation of a situation in which the interview feels comfortable to the participant and in which people can talk naturally about important things. Thus, the interview has to be relaxed and conversational, and a relationship between the interviewer and the interviewee is established (Taylor and Bogdan, 1998). The most common type of interviewing is face to face and it can be a single interview or can take place over a number of sessions depending on the aim of the research (Fontana and Frey, 1998).

Doing interviews needs preparation beforehand. This is called the introductory phase of the interview and involves asking for the consent of the interviewee, providing basic

information about the purpose of the interview and some idea of the length of the interview (Flick, 2009). Also very important in this preparatory stage is the trialling of the questions. Trialling provides the interviewer with information on which questions are productive and which need rethinking (Gillham, 2000).

In the present research, teachers received a letter informing them of the content of the research (Imaginative writing of deaf children) and inviting them to participate in the interview (included in Appendix 1). No more information about the content of the interview was given. It was decided that giving further information on the purpose of their interview would probably alert them to the interest of the researcher in imaginative writing and influence their answers. In regards to the trialling of the interviews, the interview questions were tried out with a retired teacher in order to gather information on the length of the interview and on the clarity of the questions. The feedback taken from the trial interview was then used to review the questions and arrange the time needed for the interview.

3.3.2.1 The planning of the interviews

In semi-structured interviews there is an interview guide which indicates the topics to be covered and includes some suggested questions. Some main types of questions which are used in semi-structured interviews are: introductory questions, follow-up questions (questions that extend the interviewee's answers), probing questions, specifying questions, direct questions, (topics and dimensions are introduced directly), indirect questions, structuring questions, (the interviewer is responsible for the course of the interview) and interpreting questions (Kvale, 1996). Based on the semi-structured character of the interview the topics and the questions under each topic were

written beforehand. The wording and the order of the questions changed in some interviews depending on the answers of the interviewee and some probing questions were added.

The major thematic areas that were explored through the interviews are as follows:

(a) Imagination

The first questions dealt with the concepts of imagination. The teachers' perception of the term might have had an influence on deaf children's imaginative writing. The way that the teachers viewed imagination might be important for the way that they perceive deaf children's imagination.

Questions:

1. What do you think imagination is?
2. Can you describe it?

(b) Deaf children's imagination

The second area of discussion focused on the central theme of this research which is about deaf children's imagination. The teachers' perceptions of deaf children's abilities could possibly affect the way that deaf children express themselves in writing. Although teachers - in this research study - might have held some preconceptions about imagination of the deaf students in their class, they might not match their students' actual performance. In an attempt to answer the research questions regarding the factors that affect deaf children's imaginative writing teachers' perceptions were used as complementary to results from the quantitative analysis and aimed to present a different angle on the issue.

Questions:

3. Would you say that there is anything special about deaf children's imagination?
4. If I give you three factors that can affect deaf children's imagination can you comment on them?
 - Hearing loss
 - Communication approach
 - Difficulties in writing
5. Do you think that the stories produced by children for this research matched your expectations?

(c) Writing in the classroom

As was mentioned before, the context in which a phenomenon is investigated can play an important role. In this research the context in which deaf children expressed their imagination in writing was the classroom. Thus, the opportunities that were given in the classroom and the activities that were used by the teachers to promote their imagination are likely to influence their performance. Also, the importance that teachers attributed to writing as a product and its connection to deaf children's skills in imaginative writing was significant.

Questions:

6. Which activities do you use in the classroom to promote imagination?
7. Can you give details of any imaginative writing activities that you do with the children?
8. Can you comment on any connection between deaf children's writing skills (grammar, structure) and their performance in imaginative writing?

(d) Closing question

At the end of an interview it is important to give the interviewee the opportunity to say anything about the theme of the interview that was not covered by the questions asked. It is important to pull together the content of the interview. As Gillham (2000) suggests closure of an interview is as important as preparation and can easily be ignored by the interviewer.

Question

9. Do you think that there is anything that wasn't covered in the previous questions?

3.3.2.2 The location and the overall environment

The teachers' interviews were scheduled for the third (last) visit to the school after all the story data were collected. The reason for this was because teachers were also asked to comment on the stories that the deaf children produced. The interviews were all conducted in the school in a quiet room and lasted no more than an hour. The interviews were recorded using a digital voice recorder device and they were later transcribed for analysis. Some notes with the most important information were kept during the interviews in order to help the interviewer to reflect to what the interviewee had said and to use their words as probes:

Probes are supplementary questions or responses which you use to get interviewees to feed you more - to expand on their response, or part of it (Gillham, 2000a, p. 46).

3.4 Data Analysis

Having developed the data collection tools the question that now arises is how the data collected can be analysed. How was it possible to analyse imaginative stories and judge which stories display higher levels of imagination? In order to solve this

problem an imagination scale had to be developed. The development of the scale and its reliability and validity are discussed separately (Chapter 5). However, quantification of imagination was a rather daunting task and it had to be based on features drawn from the qualitative analysis of the stories.

3.4.1 Presentation of results and analysis for four participants

Based on the exploratory design of this research qualitative analysis was used to explore the imaginative stories before they were tested quantitatively. This involved in-depth analysis of all three written stories of a child. For each participant the three stories were explored in depth, drawing on the particular features of imagination that each story contained. These features emerged from the theories on imagination (Chapter 2) and were based on the working definition of imagination adopted for this research. In order to study each child's performance in detail and to probe its particularity, data were presented not only on the phrases of the stories that exhibited imagination but also on the background characteristics of the children, the way the stories were presented on paper and the teachers' perceptions on the written performance of each child. This was all information that is crucial in order to illustrate what was particular and what was ordinary about each participant and allow for conclusions and considerations. The criteria for choosing the four participants and the presentation of the results and analysis of their imaginative stories are presented in Chapter 4.

3.5 Sampling of children

The sample is selected from a population which is defined as the universe of units from which the sample is chosen (Robson, 2002). If a sample has to be drawn from a population then that population is not everybody, but everybody falling into the category whose characteristics have been identified (Burroughs, 1975). This is the first task in sampling: to identify and define precisely the population to be sampled. In this research, the population was defined by the aim of the study and the research questions as stated above. Therefore, the population from which the sample will be drawn is the population of deaf children in the United Kingdom.

According to Robson (2002); types of sampling are usually divided into two groups: probability and non-probability samples. In the first group the sample is taken as representative of the population and each person in the population has an equal chance of being included in the sample. Under probability sampling four categories exist: random, systematic, stratified and cluster sampling. Non-probability sampling is used when probability sample is not possible or is not what the researcher wants to do. Under non-probability sampling four categories exist: quota, dimensional, purposive and snowball sampling (Bernard, 2000). The above categories are mentioned here by name and only purposive sampling which was used in the present research is presented more explicitly.

It was decided that the most appropriate type of sampling for the present research was purposive sampling. As Schutt (1999) states:

In purposive sampling each sample element is selected for a purpose, usually because of the unique position of the sample elements (p. 155).

The sample is built up according to the researcher's needs in a project. The concept behind this approach is very different from random sampling in which the sample is derived from the population based on statistical generalization (Robson, 2002). In the present research study probability sampling was not possible as it was dependent on the school in which the deaf children were educated, whether the school wanted to take part or not, and also on the characteristics that the deaf children had to meet in order to be appropriate candidates for the sample. Primary schools (71 in total) in which deaf children were educated either in the mainstream classroom or in a Hearing Impaired Unit were selected from the schools' directory. E-mails were sent to all the schools. The schools were spread across the United Kingdom. Students who were participants in the research were those whose schools (7 overall) replied to the research request and where the deaf children met the following criteria:

- Age 9-11
- Degree of hearing loss >40 db
- Use of speech, or both speech and signs

The above characteristics of the population were decided according to the research questions. It was decided the sample would be drawn from primary school age deaf children (9-11). Secondly, the degree of hearing loss was an important criterion because the relationship between hearing loss and imagination was one of the central research questions. Thus, children with moderate to profound hearing loss were selected. Finally, the choice of the communication approach was made because stories produced by the children who use only sign language might have differences in structure compared to the stories produced by children who use oral or total communication. This discrepancy between those two groups of children might exist

due to the fact that sign language does not have a written form and its syntax is different from the oral language. The deaf children who matched the above criteria and were chosen by the Teachers of the Deaf had various academic achievements.

The sample of children that took part in the research is presented below according to the age, to the degree of hearing loss and to the type of communication used. In Tables 4 and 5 the total number of children is not thirty as no information regarding the degree of hearing loss was received concerning three children and no information on the type of communication used was concerning two children.

Table 3: The sample of children according to their age

Age	Male	Female	Total
9	5	4	9
10	7	4	11
11	3	7	10
Total	15	15	30

Table 4: The sample of children according to their degree of hearing loss

Hearing loss	Male	Female	Total
Moderate	3	2	5
Severe	2	1	3
Profound	8	11	19
Total	13	14	27

Table 5: The sample of children according to their type of communication

Communication	Male	Female	Total
Oral	9	8	17
Signs and speech	4	7	11
Total	13	15	28

Having decided upon the criteria for the deaf group the hearing group were chosen to match these criteria in order to be compared to the deaf group. The hearing children selected were the same age as deaf children (9-11) and they were deaf children's classmates in the general classroom. The hearing children were selected by the class teacher based on their overall academic achievement. Thus, their overall academic achievement had to match that of the deaf children. The teachers interviewed were selected as they were the Teachers of the Deaf who had the deaf children in their classrooms.

According to Miller (1991), a sample should be as large as the researcher can obtain with a reasonable expenditure of time and energy. So, whilst obtaining a large sample is desirable, it is not always possible or practical to collect it because of accessibility to schools (e.g. location, parents' and teacher's consent, etc). In the present research the deaf children who participated were the ones that met the criteria presented above and those whose schools gave permission for the research. Considering all the above, the target number for the sample was thirty deaf and thirty hearing children.

Having decided upon the characteristics and the size of the sample it is crucial to think of some practical issues, concerning the availability of the sample, which the

researcher has to take into account. No matter how carefully the sample is selected it is common that some of the participants will leave during the research for various reasons. In total three imaginative stories were collected from each student throughout an academic year (2005-2006) in order to provide a more adequate and representative account of their imagination. This decision was made based on the fact that deaf children might produce very short stories or might not be able to perform at all on a particular day.

3.6 Reliability

Reliability refers to the notion that if the research is conducted by another researcher, using the same instruments, the same results will be obtained (Burns, 2000). In the present research which is based on a multi-method approach (quantitative and qualitative) the task of designing a reliable study becomes more complex. The reliability in the quantitative strand of the study is discussed in Chapter 5.

Reliability in the qualitative strand is much more difficult to establish. As Teddie and Tashakkori (2009) suggest, the reliability of qualitative methods is based on the thick description of the reality and on the identification of the characteristics and aspects of the social scene. Consequently, reliability can be achieved through the process of understanding meaning by relying on a prior understanding and on the description of the context in which the action takes place (McEwan and McEwan, 2003).

Thus, in the present research, reliability was based on the careful interpretation and detailed description of the children's imaginative stories and of the teachers'

interviews. Great attention was also paid to the children's previous experience of imaginative writing and to the teacher's presuppositions on imaginative writing.

3.7 Validity

Validity is about establishing credibility in research. It concerns the integrity of the conclusions drawn from the research and requires that the approach to the research taken is rigorous and honest (Burns, 2000). Validity is typically divided into internal and external. Internal validity addresses the question of whether researchers actually observe or measure what they think they are observing or measuring. It has been defined as referring to the appropriateness, meaningfulness, and usefulness of the specific inferences researchers make based on the data they collect. The issue of external validity concerns the extent to which the abstract constructs and hypotheses generated, refined or tested by scientific researchers are applicable across groups (Fraenkel and Wallen, 1990).

As far as this research study is concerned the best way to approach internal validity was the use of mixed (quantitative and qualitative) methodology. The deaf children's imaginative stories were assessed in terms of imagination by identifying and evaluating features that indicated imagination. Moreover, in order to draw safer conclusions about deaf children's imaginative stories and have a broader picture about their imagination and the factors that can influence it, teachers' interviews were used. In this way it was ensured that the inferences made concerning imaginative writing of deaf children were appropriate, meaningful and that what was measured was exactly what needed to be measured according to the research questions.

When engaging in social research and especially when vulnerable groups are included in the sample, apart from sampling, reliability and validity, ethical considerations should be taken into account.

3.8 Ethics

Ethical problems can relate to both the subject matter of the research as well as to its methods and procedures, and can go beyond courtesy or etiquette regarding appropriate treatment of persons in a free society (Burns, 2000). The most fundamental ethical principle that is involved is the participants' understanding of the nature and purpose of the research (Robson, 2002). They must consent to participate without coercion. In order to ensure the above ethical principle, letters were sent to the Head Teachers of the schools and to children's parents to ask their permission for their children to take part in the research and information letters were given to the children asking if they were willing to be involved (Appendix 2). All parents had to sign a consent form which described the purpose of the research, its procedures, risks and disadvantages, its benefits and their and their child's right to withdraw at any point during the research process. The parents who agreed for their child to take part in the research were asked to complete a sheet asking personal information about their child regarding issues around deafness and imaginative activities at home. Moreover, privacy and confidentiality were achieved by anonymising the raw data as well as ensuring that the names of the parents and of the children writing the stories do not appear in the study and no individuals can be identified.

3.9 The Pilot Study

In order to ensure that the research design and especially the tools of data collection and analysis are appropriate for the specific needs of the research a pilot study is invaluable (Evans, 1979). As Aldridge and Levine (2001) state, a pilot study is a miniature of the real research which can reveal some of the weak and strong aspects of the research design that the researcher has to take into account.

The pilot study of this research included eight hearing children. The children were bilingual (Greek/English) and attended the Greek primary school in Nottingham. Arrangements with the class teacher were made beforehand. During the previous lesson she informed the children that they would write stories to explore their use of imagination. She asked if all the children were willing to participate in this activity. Once the children's permission was given the activity was performed in the next lesson.

The researcher gave clear instructions to the teacher about the procedure for the data collection. The researcher gave the following instructions to the teacher:

“Tell the children to imagine that they have a magic power and then to write a story about this power. They have twenty minutes maximum and no help is given to them. Explain to them that this is not a test of correct grammar or structure of the story; they are free to write what they “imagine”. The researcher ensured that the instructions were followed by observing the whole procedure but without being involved at all. At this point it is important to mention that the stories were written in English.

At this stage, the development of the data collection tool proved to work well. The children were quite excited writing about their magic power and they were all engaged in the activity. They seemed really focused on what they were writing but it seemed that the time given was not enough. They asked for more time and they seemed really engaged in the writing. They did not seem to be frustrated or stressed by the activity.

The pilot study was very helpful in the stage of data analysis as it gave the opportunity to explore whether the topic of the stories given to children was appropriate or not. In all eight cases the children came up with quite imaginative ideas. These children's stories provided the evidence that this kind of stimulus was suitable and provoked children's imagination. On the other hand, a problem related to the title was identified: the topic "magic power" is quite relevant to books, videogames and cartoons that children read or watch on the TV. This resulted in children coming up with stories including features from the videogames and the books they read. Moreover most of the stories had the same ideas (eg. the ability to fly). This provided information of the stories' content anticipated in the main data collection and pointed towards a potential problem of assessing the imagination in children's stories when similar ideas are presented. The above were very valuable information and addressed issues that had to be considered for the actual data collection.

The stories collected also provided very useful information for the data collection tool itself. An important issue that emerged reading through their stories was that it required a lot of attention from the reader. Another practical problem of the children's stories as data collection tool was that it proved to be quite difficult to make sense of what children were writing as most of the stories were illegible. For the actual data

collection this problem was solved by asking the children to read back their stories and the researcher making notes on paper of what they have read.

To sum up, the help that the pilot study offered to the better design of the research is undeniable. The pilot study provided valuable information concerning the data collection tool. It proved that the topic chosen for the first story was the right stimulus for children's imagination. Unfortunately there was no opportunity to pilot the other two titles due to the time limits. Nevertheless, the pilot study provided valuable evidence to suggest that children were able to produce imaginative stories just by giving a topic to them and without any further stimulus. In conclusion, the pilot study was essential for the design of the research as it gave evidence of the improvements in the research design that had to be made.

3.10 Conclusion

The methodology of research is the first and most important thing that has to be designed before any further planning takes place. The aim of this research study was to examine deaf children's imagination and how this was expressed in writing. The methodology used for the completion of this research study was both qualitative and quantitative (the quantitative methodology is described in Chapter 5). The data collection tools that were chosen as more appropriate for this research study were documents - analysis of children's stories - and teachers' interviews. Imagination of deaf children was further explored using teachers' interviews.

The next chapter focuses on the presentation of results and analysis of four children's imaginative stories which are analysed qualitatively in order to identify characteristics of imagination.

CHAPTER FOUR

PRESENTATION OF RESULTS AND ANALYSIS FOR FOUR PARTICIPANTS

4.1 Introduction

The criteria for analysing imaginative writing as these are used both in scales and in textual analysis in the literature were presented in 2.3.3. From those criteria for imagination identified in the literature the ones to be used in the present study were chosen based on the working definition of imagination (discussed in 2.2.4) adopted in the current study:

Imagination in children is the ability to envisage various unrealistic situations, to pretend, to think in the sphere of ‘what if’, to enter magic worlds and combine ideas in a unique/original way and to explore unexpected situations. The source of imagination is reality, thus the experience of the world, in which language plays an important role.

The criteria for evaluating imaginative writing are based both on elements of imagination and on elements on which a story is constructed. A reminder of these criteria (see 2.3.3) follows:

- Imagination : Association based on the original stimulus that moves away from it, evidence of fantasy in producing something that cannot happen in reality, inclusion of principal characters identified by name, appearance of fantastic creatures, vivid imagery, combination of fantasy with reality, recombination of ideas in unusual relationships, imaginative dialogue, personification and

originality (novel theme or idea of the story, exaggeration as exhibited in quantitative thinking, ingenuity in solving situations),

- Story structure; title beginning, middle, end
- Story plot: setting, initiating event, consequence, dialogue

However the criteria listed here were chosen from scales and textual analysis based only on hearing children's pieces of writing. The aim of this chapter is to analyse in depth some of the deaf children's stories in an attempt to explore not only which of these elements deaf children do exhibit in their stories - with the intention to use them in order to develop an assessment tool for the expression of deaf children's imagination in writing – but also to identify any other elements of imagination found in these deaf children's stories that might not have been addressed in the literature.

For the purpose of this extensive analysis only a small sample of deaf children's writing could be analysed. The decision on which children to select from the large number of stories collected was not an easy one. The selection should be based on the individual characteristics of each participant's story writing that make it stand out and which at the same time contribute to the drawing of conclusions.

Due to the large number of stories collected, all of them were first read before deciding which children's stories were going to form this analysis. The strategy behind that is explained below:

- All the stories of deaf children were read once in order to get a general sense of the ideas and thoughts presented in the stories.
- The stories were then read a second time. When reading the stories for the second time, a pen was used to highlight the sentences in which the criteria for imagination and story structure as listed above were reflected.

It was important to select children who shared different background characteristics and demonstrated various levels of imagination in their writing. Since the sample was drawn from two different educational settings: Hearing Impaired Units and mainstream schools it was decided to choose two children from each setting. The educational setting in which children were educated was likely to have an effect on their writing. For conclusions to be drawn it was also important to choose two cases from the extremes and two that shared various characteristics. Thus, the reasons for choosing each one of these students were as follows:

Children from Hearing Impaired Units: D and E

- Reasons for choosing D: His stories were thought to represent the best demonstration of the criteria for both imagination and story structure.
- Reasons for choosing E: Her stories were also very imaginative but at the same time she did not have a Cochlear Implant unlike the other three children presented here.

Children from mainstream school

- Reasons for choosing J: His stories did not exhibit a lot of imagination although he was educated in a mainstream classroom and was receiving constant support from a TA.
- Reasons for choosing L: He was the oldest of the four children selected, and his stories were thought to be more imaginative than any of the other stories produced by the deaf children in the sample who were educated in mainstream school, although he was receiving very little support in the classroom.

The stories of the four children selected for the analysis are presented separately. For each participant the personal information obtained from the parents, a summary of the three stories, the presentation of the stories and an in-depth context analysis, are included. The reasons for including all the above information for each participant are presented below:

- Profile of the child: The information presented here was given by the parents of the children and aimed to assist in the understanding of the child's background and its possible effect on his/her writing.
- Summary of the stories: Due to the fact that some of the children's stories were quite long, only the summary of the stories is given here in order to gain an understanding of the ideas expressed in the stories. The summary was based solely on the actual stories without any further interpretation. The topics of the three stories and the instructions given were presented in Chapter

3. As a reminder to the reader the topics of the three stories were: (1) Magic power, (2) My own island, (3) The day I changed into an animal. The actual stories are presented in Appendix 3.
- Presentation of the stories: Information about the grammar, the structure and the overall presentation of the stories on paper were essential features of the stories. This subsection aimed to contribute to the answer given to the research sub-question referring to the possible connection between the use of the above conventions of written language (see 2.3.2 for teaching writing) and imagination in deaf children's stories.
 - Imagination exhibited in the stories: elements of the stories that were thought of as imaginative and which were based on the characteristics presented above are presented here.
 - Teacher's comments on the child's imaginative writing: This information was presented in order to gain an insight into what teachers think about the children's writing and how their perceptions correlate with the children's performance.

Throughout the present analysis, the children's stories are quoted exactly as they were written, with spelling and other errors.

At the end of the individual analysis, discussion follows drawing conclusions on the commonalities and differences between these participants.

4.2 Participant One

Name of the child: D

4.2.1 Profile of the child

D was 10 years old and he was in year 5. He was profoundly deaf and he underwent Cochlear Implant surgery at a very early age. He was educated in a Hearing Impaired Unit using total communication. When the research was conducted he was about to change school and go to a mainstream school. Both his parents were hearing. The Teacher of the Deaf commented that he had excellent literacy skills and that he enjoyed writing. He was encouraged by his parents to write stories at home. He was a very calm boy and he looked quite mature. He had never taken an IQ test but he was considered by his teacher to be very intelligent as he was one of the best students in the class.

4.2.2 Summary of the stories

Story 1: "The amazings"

There was a family of superheroes each one of whom had different magic powers. During a fight with their archenemy Dr. Brain they were captured and held in a dungeon. Thanks to the super powers of one of the members of the family they succeeded in escaping just a minute before Dr. Brain was about to activate a brain washing bomb and before one of his robots was about to destroy the whole city. The super family managed to stop them and save the city.

Story 2: “Monster Mong”

There was a boat with a crew of ten people sailing off to the USA. The boat was caught in a storm and the adventure started. They crashed on an island and a monster called Mong made its appearance, killing half of the crew and sending the boat back to England. On the command of the captain they collected a large amount of seaweed in order to kill the monster. The monster was killed and the survivors became very wealthy after turning the island into the most famous place on earth.

Story 3: “The journey to the edge of the ocean”

The story was about a boy who turned into a fish and had to complete a mission in order to turn into a human again. The mission was to go to the edge of the ocean, find a mirror and look at his reflection at it. During his journey in a forest of seaweed to search for the mirror he came across an eel whose name was Jack. Together they managed to get away from a shark which was chasing them and to arrive at the edge of the ocean. By looking in the mirror they both turned into humans again.

4.2.3 Presentation of the stories

All the three stories of D were well presented on paper and they were quite long - with the first one being 455 words, the second 346 and the third 370. From the three stories, the second and the third were alike presentation-wise and as far as the size of letters is concerned. The first one had smaller letters which got bigger at the end of the story and that can be explained by the fact that that he was writing faster at the end in order to

finish in the time limit given. The other two were written in quite big letters. Throughout the three stories there was an extensive use of block capitals. The way he used them was to highlight important bits of the story and to emphasize crucial points of the plot:

“Their archenemy was DR. BRAIN”

“All the children ran out of the school SCREAMING”

All three stories were quite well positioned on the page leaving enough space on the left side but no space on the right side. The final draft of the story was legible, clean, neat and attractive. It was free from erasures and crossed-out words. It looks like the student took great pride in it. All three stories reveal that D devoted a lot of effort to the writing process and that he had worked hard to make the stories appealing.

There was correct use of grammar and punctuation throughout the stories. There were no spelling errors and character and place names that the author invented were spelled consistently throughout. More specifically, commas were used correctly in order to add to the good presentation of the piece of writing and exclamation marks were used effectively to give emphasis at some very important parts of the stories. However, very long sentences were used and connecting words, such as “and”, were used a lot in all three stories.

4.2.4 Imagination exhibited in the stories

Before proceeding to characteristics that exhibited imagination in D's stories, it is important to draw attention to an observation that was made for all three stories regarding the person in which the stories were written. It was observed that in the first and third story he wrote about himself using the third person and his real name although the second story was written in the third person without making any references to himself. That was a very important observation taking into account that according to the instructions given the stories had to be about themselves.

Regarding the title of the stories, in all three of them, the child used titles that were not directly connected to the instructions given and that showed a high level of imagination. The titles used were promising, and excited the reader's imagination for the content of the story. By the titles alone (The Amazings, Monster Mong, The Journey to the Edge of the Ocean), one cannot help but read the stories.

As far as the beginning of the stories is concerned, they all looked similar as they referred to the past, they set the scene and they introduced the context of the story to the reader:

*"About a year ago a small boy called D^{**} had a super power."*

"A few years ago at central england a ship set sail."

"Not long ago a boy called D got up out of bed ... he looked at the mirror ... and he had changed into a fish."

^{**} The child used his own name as the protagonist of the stories and therefore for confidentiality reasons – this is given as D.

It can be said that the beginning of all three stories was quite imaginative and that it raised the reader's curiosity.

All three stories had a meaningful happy ending which completed the story in a rather pleasant way. However, it can be said that all three endings were quite predictable and quite common in children's stories:

"The whole city cheered and applauded for us and we got medals from the mayor".

Lynn, Kevin, Luke got taken back to England and turned into millionaires and lived happily ever after!"

The unfolding of the events provoked the curiosity of the reader and contributed to the intriguing and imaginative plot of the story. One of the characteristics that added to the overall imagination of the story was the anxiety for the continuation of the story. In all three stories D came up with some problems that created suspense:

"A huge ball of steel hit the playground and ..."

"A quarter of the way there they hit a storm"

The suspense that was created by the initial problem was followed by the character's reaction:

"He checked how deep the water was and said 30 fathoms ... the water was getting shallower!"

"I went to the phone box to change into my superhero costume to fight Dr. Brain."

The characters' reactions as these were presented in the three stories made the story exciting and live and raised the reader's curiosity to know what the solution to the problem might be. What happened next determined the continuation of the story:

"The ship crashed into the wall ..."

"Me and my family fought Dr. Brain ..."

In all three stories, the events described were very imaginative and contributed to the sense of suspense the story left:

"He pressed a button on his head which made the robot hit me, I tried to fight back and I woke up in a dungeon with two skeletons hanging on the wall in front of me".

Apart from the anticipation in all three stories there was an event that was intended to turn around the plot of the story and surprise the reader. It was observed that in the first story these unexpected events were more exciting than in the other two stories:

Story 1:

"We quickly crept out and suddenly we saw a Even BIGGER robot destroying the city with the thing that DR. BRAIN was fiddling with."

Story 2:

"When they were a quarter of the way there they hit a storm!"

Story 3:

"Suddenly a shark roared and started chasing him."

Imagination in D's stories was also evident through magic/fantastic elements. In his stories he presented events and objects that cannot possibly happen in reality:

“Mong crashed through the wall and threw the ship back to England”

“He pressed a button on his head which made the robot hit me”.

“...a brain washing bomb...”

The use of characters in the story played an important role in how exciting and inspiring the plot of the story was. The way that the characters were presented in the story and the way they interacted with each other had an impact on the continuation of the story and on its overall imagination. In all three stories a number of characters made their appearance and different characteristics were attributed to each one of them. In the first story, which had the most characters of all three, six characters were presented and introduced to the reader at the beginning of the story.

At this point it is important to address the fact that D's stories, in particular the first, can be an excellent example of how films watched on television can fire children's imagination. It was seen in 2.3.4. that what children watch on television can enable the creation of new ideas which they incorporate in their imaginative stories by transforming it into something else. Thus, D's choice of character in the first story and the characteristics attributed to them (powers) were taken from the Hollywood film 'The Incredibles':

“About a year ago there was a super hero whose name was Dash. His power was to run faster than a speeding bullet. His dad was Mr. Amazing, his real name was Ben. His power was to lift buildings that were 132 feet high. His mum was called Julie. Her power was to stretch as high as 10 meters!”

However, D engaged with the film he watched in such a way that he inhabited it, he made it his own by using these characters and other elements of the film (for example robots) to

explore alternative possibilities of the plot, by creating his own imaginary events and going beyond the story that he watched. The events described in his story, the way that the characters interact between them and the solution he gave to problem and the way that the overall plot unfolds in “The Amazings’ (see 4.2.2. for the story summary) is different from that in the original film^{***} he watched. The synthesis of the elements he watched in the film with his own ideas makes this story quite original as originality is seen as the power to make new synthesis but at the same time acknowledging that there is never anything absolutely new created (Simpson, 1992).

Therefore, it is suggested here that D’s stories were outstanding and imaginative. Indeed, although a lot of the children’s stories used quite similar ideas in order to relate to the topic given, D wrote a story which was related to the assigned topic but at the same time was very original. All three of D’s stories had a unique idea which unfolded into a fascinating story.

In all D’s stories the solution to the character’s problem was very original and quite unique, not found in the other deaf children’s stories. However, it was easy to understand and was logical. There were no loose ends.

^{***} The plot of the film ‘ The Incredibles’ is as follows:

Mr. Incredible is a superhero; or he used to be, until a surge of lawsuits against superheroes submitted by the people they've saved forced the government to hide them in witness protection programs so they could lead normal, anonymous lives. Now known exclusively by his secret identity, Bob Parr, he lives with his wife Helen, formerly Elastigirl, and their three children Violet, Dash, and Jack. He works as an insurance claims specialist, and he's fed up with his pushy boss and his immoral profession, but his wife's worked too hard to build a normal life for her family to abide his nostalgia for heroism. When Mr. Incredible's offered the chance to play the role of hero again by a mysterious informant, he jumps at the opportunity, but when it turns out to be a trap set by an old nemesis he had a hand in corrupting, the whole family must reveal themselves to save Mr. Incredible and countless innocents.

“Kevin told them to collect as much seaweed as they could and throw them at Mong about five minutes later 2 of the people were killed! They were Ming and the captain. Finally Mong died from the strength of the seaweed!”

There was a lot of action in the stories which was supported and made even more vivid by the use of sounds: *“Hahahaha (Evil laughter)”*. It also gave the opportunity to the reader to visualise the story.

In D’s stories the characters were not only humans but also animals or objects to which human characteristics were given. In all three stories D imagined that animals and objects can speak, that they have feelings and can act the same way as humans. This suggested that his imagination was not limited and that he could detach himself from reality:

“«My name is Jack» said the eel”.

Moreover, with the language that D used in all three stories he created a world full of things that can be seen, heard and touched in which the reader can enter. In all three stories he used nouns that called up a vivid image (for example: skeletons, bullets, building, legs) and verbs that represented action that can be visualised (for example: surrender, scream, crush). In this way the writing came alive.

Reading through his stories, what made them imaginative was the use of exaggeration.

He described events with every single detail producing an overstatement.

“The eyeball flew through the robot’s chest and killed the robot when there were 15.53 seconds left”.

Having examined in depth the various elements that demonstrate imagination in the stories of D, safe conclusions about his overall expression of imagination in writing can be drawn. All three stories produced by D demonstrated a high level of imagination. The reader was carried away as he was given various opportunities to visualise the story. In conclusion, all his three stories were excellent pieces of writing with a lot of elements that exhibited imagination

4.2.5 Teacher's comments on the child's imaginative writing

The Teacher of the Deaf was interviewed after the stories were collected and she was asked to comment on the child's written product. Although when she was asked about deaf children's imagination she expressed a quite negative opinion and described them *"not as imaginative as hearing children"* she commented quite highly on D's imaginative story. She admitted that this piece of writing matched her expectations of him and actually surpassed them. She attributed this highly imaginative piece of writing to the student's literacy skills:

"He's got excellent language skills and he reads loads and loads of books".

The student's highly developed imagination was also connected to his experience and to his exposure by his family to various stimuli.

4.3 Participant Two

Name of the child: E

4.3.1 Profile of the child

E was 11 years old and she was in year 6. She was receiving literacy and numeracy classes in the Hearing Impaired Unit. She did not have any signing skills and she was educated using oral communication. She was attending all the other lessons in her class with the assistance of a Teaching Assistant. She was diagnosed as severely deaf when she was 2 years and 10 months old. She did not have a Cochlear Implant. She was not receiving any help with her homework from her parents but they would constantly encourage her to write stories and letters at home. Her teacher commented that she had good writing skills and enjoyed writing stories.

4.3.2 Summary of the stories

Story 1: "My magic fingers"

The story was about E who discovered that she had magic fingers as she could make her friend shake. She could use her power to move things and do her homework and she could even sense ghosts around her. She had a ghost friend called Charlie. He made her fly and she was so terrified that she wanted to get off the earth but Charlie could not help her. She started being afraid of her powers and she asked her mother's help. Her mother did not believe in her powers until E spilt her coffee using her magic fingers. At the end they discovered what was wrong with her and she was put in a mental care home to get better.

Story 2: "The candy island"

All started when she was relaxing in her room. Her mirror transformed into a tornado and a voice was calling her to go through. She found herself on an island and a friendly little creature told her that it was the "Candy Island". Being hungry she had one of the sweets from the trees when suddenly an evil creature scared her. A candy tree saved her life. She was safe but she wanted to go back to her parents. A voice sent her back while she discovered that it was all a dream!

Story 3: "The day I changed into an animal"

The story was about E waking up and discovering that her room was a jungle and that she was a leopard. The weird thing was that her mum was a lion and all her friends were transformed into various animals. Suddenly she was hit on the head by a coconut and found herself flying. She was hit again on the head and she was awake. Everything was back to normal.

4.3.3 Presentation of the stories

The first and the second story were very similar in presentation. They were both positioned well on the paper leaving enough space on the left side. They were both neat and tidy and free from erasures. It looked like the writer took great pride in them. Both stories were illustrated with drawings which were very explicit and made the stories more vivid. The third story was very different from the first two as it had quite a few erasures, no drawings and it seems like the writer wanted to get on with it without paying a lot of

attention and without putting a lot of effort on it. In all three of them there was excellent use of grammar and punctuation. Commas, full stops and exclamation marks were used effectively. Especially in the first story direct speech was used throughout the story and she made good use of quotation marks.

4.3.4 Imagination exhibited in the stories

The first indication of imagination in a story is the title given to the story. Thus, E used very imaginative titles for the first two stories.

(1) *“My magic fingers”*, (2) *“The candy island”*

In her titles she did not use words taken from the instructions given and as a result she came up with very imaginative titles. This was a sign of her flexible way of thinking. The title in the third story was directly taken from the instructions given. It seems that E did not spend time thinking about it.

The common characteristic of the three stories was that they all had a beginning, middle and end. Regarding the beginning of the stories the first and the third look similar as they referred to the past and they introduced the setting in which the story took place. However they were quite ordinary and common in children’s stories:

One day I walked to school and I waved at my friend Amelia ...”

In the second story, the writer prepared the reader for the theme of the story.

“My name is Anthea. I am going to tell you my best adventure ever!”

The above sentence from her story, apart from showing evidence of story structure, also exhibits her ability to take up roles and imagine being someone else. Although the story was written in the first person she did not use her own name but a made-up one.

The first two stories had an appropriate ending although in the third story it seems as if E had to finish quickly and she could not think of an ending to her story:

“Oh It’s all back to normal. Oh thank god. The End.”

This came in contrast to the ending of the first and the second story which can be viewed as highly imaginative and unpredictable by the reader:

“People found out what was wrong with me so I now live in a mental care home to get better”.

Although the above ending was “tied” to reality, it is sparse in the deaf children’s stories collected for the present research and it does not match the usual cliché of a “happy ending”.

In the first and the second stories there was a lot of anticipation for the continuation of the story. The scenes were taking place one after the other and they were considered very imaginative. Also, there was a lot of action between the characters. Nevertheless, the third story was more like a mere description of events rather than a story. In the first two stories there was a nice flow throughout them:

“I heard a voice inviting me into the tornado. I did as I was told. I stepped in the tornado and the next minute I was on a candy island and there was a little creature next to me”.

There was a lot of suspense in the first and second story leaving the reader in anticipation of what was going to happen next.

There were quite a few characters involved in the first and the second story which were not human and were products of E’s imagination. She created a lot of creatures that do not exist in real life and made them interact with people.

“Then I noticed a little creature, I don’t know what it was”

Also the appearance of subjects such as ghosts can exhibit her ability to explore alternative possibilities and contribute to the originality of the story

“Are you dead, Charlie? I whispered. Do you have powers like me?”

Moreover, in the first two stories she included her personal judgment about the characters attributing different characteristics and emotions to them.

Hello. My name is Islamamod. Said a squeaky voice”

“No. Mohamohead! screamed the tiny, evil and angry creature”

However, in the third story the characters were just presented without interacting with each other, creating a distance between the writer, the characters and the audience.

The language used in the first two stories was very rich and highly imaginative. She used various adjectives to describe characters, and circumstances. This demonstrated her language abilities and emphasized how skilled a writer E is. In the third story the vocabulary was very common without any difficult words used.

The strongest trait of E's imaginative writing was the use of unique ideas and the novel theme of her stories. More specifically, in her first story it is worth noting that she chose to have "magic fingers" and not another power common in children's stories, such as flying. Also, the above combination of the words (magic and finger) expresses novel connections between words.

There was also ingenuity in solving situations in her stories. She came up with the most incredible solutions which are rarely thought of by a child:

"People found out what was wrong with me so now I live in a mental care home to get better".

To sum up, her writing can be considered as ingenious overall, and her stories were noticeable among the stories produced by her peers. A lot of imaginative elements emerged in her stories. Her first two stories were particularly imaginative and with a sense of humour. Her third story was more descriptive and not as imaginative as the other two. However, it is suggested that overall she exhibited her imagination in writing very well.

4.3.5 Teacher's comments on child's imaginative writing

As was discussed above, E's stories included a lot of characteristics that made them imaginative (especially the first two). However, this was not a view shared by her teacher. She admitted that she was disappointed by her performance and that she anticipated that E would have performed better in the stories. Nevertheless, she did not pick on a particular story and she did not specify exactly what she wanted her to do better. It is suggested that the teacher's perception that E did not perform as she was expected had to do with the teacher's concept of imagination and imaginative writing in particular. According to her when children make use of their previous experiences and relate their stories to reality they do not exhibit imagination:

“And I guess that was why you were getting elements of reality coming through because rather than being imaginative she went back to something that was secure and she knew about rather than try to write about something that she has had no experience of or very limited experience”.

4.4 Participant Three

Name of the child: J

4.4.1 Profile of the child

J was 9 years old and he was in year 4. He was diagnosed as profoundly deaf when he was 7 months old. He had a CI at the age of 16 months. Both his parents were hearing and the method of communication that they used at home was oral. His parents helped him with homework and they read books together. According to the information obtained

from his parents they did not encourage him to do any imaginative writing at home or any other creative activities.

As far as the school setting is concerned, J was attending a mainstream school and he was educated using oral communication. He was supported by a Teaching Assistant throughout the school day. He seemed to enjoy school and to be fully included in the classroom. According to the class teacher, J enjoyed writing stories and had good writing skills. With regards to his imagination his teacher believed that he was very influenced by the computer games that he played at home. Therefore, a lot of features taken from video games - fighting, killing and monsters - were expected to be seen in his writing.

4.4.2 Summary of the stories

Story 1: Untitled

The whole story was an adventure around the magic powers that the protagonist had. Jo used his power of being invisible to spy on some bad guys. Using his magic sword he fought against them and beat them. After the fight he became friends with one of them who turned out to be a nice guy. The hero created an army and together with his friend went to the base of the bad guys. There, after having a fight, his friend betrayed him and joined the enemy.

Story 2: Untitled

There was a boat that crashed on an island. During the protagonist's attempt to explore the jungle on the island, he had to fight numerous animals until he came across a magic

lion which asked him to make a wish. The protagonist wished his boat to be fixed. The lion promised to make his wish come true but he had to fight to go back to the ship. So, after fighting against humans and animals he finally got back to his boat and sailed away. In the middle of his journey the boat was attacked by a pirate ship. After fighting and killing the pirates, the hero and his crew took the magic sword off the pirates and their boat. They sailed back home and he never revealed to anyone where the island was.

Story 3: Untitled

In this story the protagonist, who turned into an ape, tried to run away from all the people that were screaming when they saw him. He went to hide in his friend's house but his friend was afraid to keep him there as people would be looking for him. So, he gave him a bag of food and some water and asked him to leave the house. On his way the protagonist met a boy who had been turned into an ape as well. They became friends and together they tried to avoid the people screaming and the zoo hunter. At the end, the zoo hunter shot at them with drugs which made them become humans again.

4.4.3 Presentation of the stories

As far as the presentation of the stories on paper is concerned, each story was presented differently on paper and they differed in length, giving the impression that each story was written by a different person. The first story was 123 words long and was not well presented on paper. To be more precise, it was written on the right side of the paper leaving a lot of space on the left side. Thus, it was written on paper like a poem. The second story was 321 words long and there was more space left on the left side, whereas,

the third story was 453 words long and again well structured on paper by leaving more space on the left side.

There was also a distinction between the three stories regarding the handwriting and the appearance of mistakes and erasures. In the first story there were a few crossed-out words, leaving most of the story neat and tidy. The handwriting was legible but the overall impression was that it was written very quickly not paying enough attention to the presentation. However, in the second story there were no erasures, and the handwriting was very clear and neat especially at the beginning of the story. In contrast to the first and the second story, the third story was really messy, full of erasures and crossed-out words and it was very difficult to read this story. Overall, the third story was written without paying any attention to its presentation and without giving enough thought to it.

All three stories demonstrated a proper use of grammar but incorrect punctuation. More specifically, commas and full stops were used so rarely that the final piece of writing could be read only with great difficulty. In all three stories the sentences were very long and it was very difficult to derive meaning from them.

4.4.4 Imagination exhibited in the stories

Concerning the way that the three stories were structured, again there were great differences between them. The only characteristic that was common to the three stories was the absence of title. It seems that J chose not to put any title and started writing the stories straight away without even leaving a line on the top of the page. A possible

explanation is that he was so much into writing the stories and he had so many ideas that he did not want to spend any time thinking of a title.

Regarding the structure of the stories there was a strong distinction between the three of them. In the first story the beginning, the middle and the end were not clear, a fact that made the story a mere description of the hero's adventure. Moreover, the story seemed unfinished:

"...and joint them so we had a fight."

The second story was much more structured starting off giving the setting of the story and continuing with a couple of incidents taking place:

"I was on a ship and the ship and it hit a rock and crashed on the sand."

The ending was clear and quite imaginative leaving some mystery as to what will happen afterwards: *"I never told any one where my island is and kept my sword"*

This was a great contrast in the structure of the third story. Although it was quite long both the beginning and the end of the story were very ordinary and common in children's stories within the same topic:

"I woke up and got my clothes on and I washed my face and I turnt into a ape and ripet my clothes of...."

"We said by to each other and went to have a rest. The End".

The way that the story unfolded, the actions of the characters and the relationships between them are all indicative factors of how imaginative the story is. In all three stories there was a rapid change of scenes and a lot of action without any characteristics exhibiting imagination:

“I went in the river. I saw a snake come in the water it tried to attack me but I held on it in time and I punched it four times and it went away and I raced across to see what it was.”

The first and the third story were quite predictable with a lot of repetition in the character’s action without leaving any suspense for the reader. An event that changed the plot of the story made its appearance in the second story:

“I raced across to see what it was it was a big lion he was a magic lion.”

Although he referred to a magic element (magic lion) it was perceived as common in the deaf children’s stories written for this research and therefore was not considered to be very imaginative.

The common characteristic of the three stories was the absence of rich and imaginative vocabulary. The student stuck to common, easy words with which he felt confident. In all three stories there were only three syllables used in the second story which can be described as rarely used and quite imaginative:

“The magic lion said: saut band boo”.

In all three stories there were no names mentioned and there was no innovative connection of words. The absence of all these features made the stories quite ordinary.

Moreover, J's first and third story did not include any original ideas and were quite common in children's stories within the same topic. Whereas, the theme of the second story was quite imaginative and can rarely be found in other stories. J created an adventure on his own island on which a lot of creatures, which were products of his imagination, made their appearance. He had some ideas, which in some places were probably not successfully combined with the experiences (monsters, fighting and killing) he had from video games and television. Instead of using this experience to explore alternative possibilities and create unpredictable, original story plots J's stories were more descriptive and predictable. J's stories can be used as an example of the negative effect television might have on children's imagination by presenting them with ready – made visual images discouraging them from forming their own images (see discussion in 2.3.4)

4.4.5 Teacher's comments on the child's imaginative writing

The Teacher of the Deaf when asked to comment on J's imaginative writing said that his writing matched her expectations. In her opinion, the stories that J produced cannot be considered imaginative as they are influenced both by stories he reads and by video games. Consequently, she believed that J's thinking was not flexible and that the way he expressed his imagination in writing was very concrete. She was not able to identify any imaginative characteristics in J's stories.

4.5 Participant Four

Name of the child: L

4.5.1 Profile of the child

L was 10 years old and he was in year 6. He was in a mainstream school and he attended all the lessons with his class receiving help inside the classroom only once a week. He was fully included in his class and it was very difficult to distinguish him from the hearing students. He was diagnosed as profoundly deaf and had a Cochlear Implant at a very early age according to the Teacher of the Deaf. Unfortunately it was impossible to get more information from his parents concerning the age of the diagnosis and the implantation. He had excellent language skills and exhibited high performance in most of the lessons. The Teacher of the Deaf described him as a very good student who could compete with hearing children in writing skills. She also described him as a mature student who enjoyed reading a lot.

4.5.2 Summary of the stories

Story 1: Untitled

The story took place in the mountains. L's father was a mind-reader and predicted that L would be a magician and that he would live for ever. In order to do magic L had to go inside the mountain. There, he fired magic and he killed thousands of monsters. Since then he promised that he would save the world.

Story 2: Untitled

L came across a flying island. There was a beautiful girl. L managed to catch a flying pig and to climb on a giant mountain. In the second chapter of the story L woke up and he was locked in a cave with someone else. L said that he found the flying island but the other person insisted that the island was his. So, they had a fight but were both released.

Story 3: Untitled

L woke up one day and he discovered that he was a lion. He went to the rainforest to meet lots of animals. After walking a lot and jumping far away he fell and found herself on his bed, back to normal.

4.5.3 Presentation of the stories

There was great differentiation between the three stories as far as their presentation is concerned. The first story was quite short, 150 words, giving the impression that it was written carelessly without paying a lot of attention. The letters were quite big and in some parts the writing was illegible. However, the second story was longer, 283 words, very well put on paper leaving enough space on both sides and free from erasures. The shortest story of all is the third one, 120 words, where it was obvious that L did not pay enough attention to the presentation of the story. It was written in very big letters and seemed very messy.

The common characteristic of the three stories was the appearance of many grammatical mistakes and the lack of punctuation marks. In all three stories there were hardly any

commas or full stops with the last one having only two full stops throughout the story. As a result, the sentences were extremely long making the stories very difficult to follow.

4.5.4 Imagination exhibited in the stories

Before proceeding to features that exhibited imagination in stories it is important to refer to the person in which the stories are written. The second and third stories are written in the first person and the first story is written in the third person although the story is about him and he uses his own name.

In all three stories there were no titles given. This can be for a number of reasons. It might be that L could not think of a title and could not even remember the words given in the instructions or that he was so much engaged in writing that he started right away. It can be said that the imaginative context of the story compensated for the absence of title. All the stories with the exception of the second one had a beginning, middle and end. Nevertheless, the story about the island followed a rather peculiar structure. Although there was lot of action going on in the story and the plot unfolded quite well the writer stopped the action and indicated the beginning of “chapter 2”. It is obvious that L wanted to transfer the reader to the future and say what happened afterwards but the way he chose to do that disrupted the flow of the story.

The beginning of the three stories was similar and quite common among children’s stories. The exception to that was the first story:

“Once a polatime there was....”

Although it seemed that in the above sentence there was just a spelling mistake, when he read back the story he said “polar time” which was thought to be imaginative and also set the time that the story took place. It also pointed out that L was capable of being imaginative in his writing.

Regarding the ending of the stories, they were quite predictable and did not surprise the reader. However, the story about the island seemed unfinished and it got quite unclear towards the end:

*“No, I am reporting you
No your not
Yeas I am
Stop you too you free
What me said L**** and H****
Yes said the man”.*

With the exception of the third story the plot of the first two stories was very exciting and kept the reader’s interest. His stories were packed with action and events happening one after the other:

*“I went inside the mountain and a monster crawled out. I fired magic, spikes and metal.
It was fantastic”.*

**** The child used his name and the name of a hearing child in his classroom and therefore - for confidentiality reasons - the names are given here as L and H

In the third story there were no episodes; a fact that made the story a narrative account without action taking place. Moreover, there was no suspense for the continuation of the story or unexpected events that raised the excitement of the reader.

Suspense for the continuation of the story and unexpected events that made the story highly unpredictable were apparent in the story about the island:

"I screamed I liked you as well god I feel dizzy I passed out.

Chapter2

I woke up and hit my head on a pan awww that hurt a lot but, I didn't care I was stuck noooooo!".

In all three stories there was no particularly rich vocabulary. However, L used a lot of descriptive adjectives which add to the vividness of the story:

"I came across a land, it was no normal land. It was in the sky but the sky was burning but it was cold on the sea..."

The theme of each of the stories and the ideas exhibited in them are frequently seen in children's stories. The idea of a hero and a king that fight against monsters in order to save the world is common in stories with related titles. Also, the theme of the story under the title of magic powers was to practise magic and become a hero.

Although there was absence of originality as far as novel ideas were concerned, L exhibited quite high imagination concerning the appearance of non-existent subjects in his stories. More specifically, in the second story creatures that were purely products of his imagination made their appearance:

"There was huge and I mean huge dinosaurs and half pig half t. rex ..."

The use of exaggeration in his stories added to the overall imagination and made stories more exciting:

“I jumped a very long and high way about 1 million miles across and 200 feet high...”

4.5.5 Teacher’s comments on child’s imaginative writing

L was presented by the Teacher of the Deaf as very talented and a high achiever in all school aspects. She supported the idea that L probably had as much imagination as the hearing children in the class. She suggested that grammatically L had a few problems and as a result he had trouble writing down and spelling things and that could be quite an obstacle. She thought that if he had a tape recorder and could tell his stories then his imagination would flow quite nicely. Therefore, she believed that his writing skills really inhibited his imagination.

4.6 Discussion

In this chapter, the imaginative stories written by four children were analysed in order to identify how they exhibited their imagination and which were the imaginative features used in their stories. The reason for going into detail about their imaginative writing was to draw some conclusions on deaf children’s imagination and attempt to find factors that can affect their imagination. The four children described above were selected with the intention of drawing conclusions on their differences and commonalities.

The common characteristic among these four children was that three out of four had a Cochlear Implant at a very early age; they were profoundly deaf - except for the girl who did not have a Cochlear Implant and was severely deaf – and all their parents were hearing. It is worth noting though that the older children - 11 years of age - performed better than younger ones - 9 years of age. This can be attributed to the fact that older children had more experiences which can probably influence imagination. Only D was educated using total communication and the other three did not have any knowledge of sign language. According to their parents' statements they were encouraged either to write stories at home or to read a lot of books.

As far as the presentation of the stories was concerned again they shared the same characteristics. With the exception of one student who was consistent in his presentation in all three stories (E), the other three children exhibited great differences from story to story. Overall, the stories that were better presented on paper and with the right use of exclamation marks were the stories about the magic power and the island. It seems that the third story for three of the children lacked good presentation and was considered as more descriptive and less imaginative. This could be attributed to the fact that when the children wrote the third story it was the end of the academic year and their level of enthusiasm had dropped, or possibly the stimulus given for the third story did not provoke such imaginative stories.

Regarding the use of written language conventions in their stories three out of four (with the exemption of L) exhibited a good use of grammar and syntax. More errors were

produced in punctuation with the use of long sentences. It is suggested that J probably exhibited the least imaginative elements, in his stories, of the four children. The other three participants' stories were overall considered imaginative, demonstrating use of imaginary scenarios, pretence, exploration of alternative possibilities and relation of fantasy to reality. Overall their stories were well structured and presented at least one episode (initiating event, response, consequence). For the first two participants (D and E) their performance on the language conventions of written language was consistent with the use of imaginative elements in their writing. However this did not appear to be the case for the other two children.

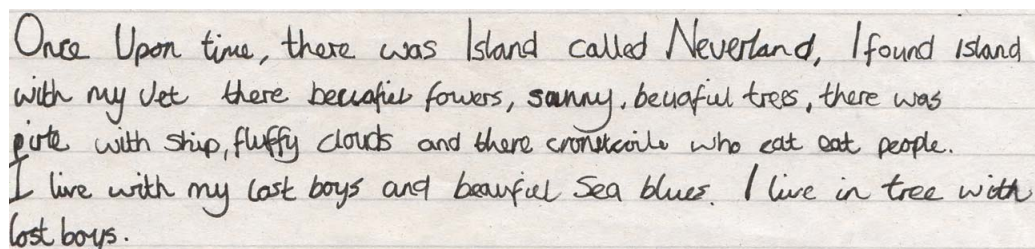
In more detail, the features that were included in their stories and were identified as indicative of imagination were: characters identified by names, combination between imaginary situations and reality, innovative combination of words, sentences that exhibited vivid imagery, exaggeration as exhibited by exaggerating use of numbers, original theme or idea of the story, ingenuity in solving situations and appearance of fantastic subjects/objects. All the above elements, identified in the stories of these children, - apart from the innovative combination of words - were similar to those identified by the literature (presented at the beginning of this chapter). In the plot of the stories, apart from the elements that comprise of story grammar, the use of dialogue, suspense for the continuation of the stories and connection between things unrelated in reality were also identified as having a significant effect on the plot of the stories.

The interesting thing that came up from the analysis of the four participants' written stories was the teachers' comments on children's writing. The comments of one of the Teachers of the Deaf supporting the fact that deaf children and especially this particular child (E) were unimaginative came in contradiction to the written production of this deaf child. Although the other teachers commented highly on their deaf students' writing skills and on their ability to think imaginatively they all held the opinion that deaf children in general are not able to express their ideas in writing (discussed in Chapter 6).

To sum up, the stories produced by these four children included a lot of imaginative features and strongly indicated that deaf children do have a lot of imagination and they are capable of exhibiting that in writing when they are given the opportunity to do so. Although the four children presented shared different characteristics as was discussed at the beginning of this chapter they all exhibited some elements of imagination. However some children's (for example D) stories appeared more imaginative than others (for example J). Although the analysis of the above stories can be described as subjective it has set the basis for an assessment tool for imagination. In this way deaf children's abilities on imaginative writing can be tested in a more objective way and further conclusions can be drawn. Thus, the next chapter focuses on the development of the assessment tool for imaginative writing.

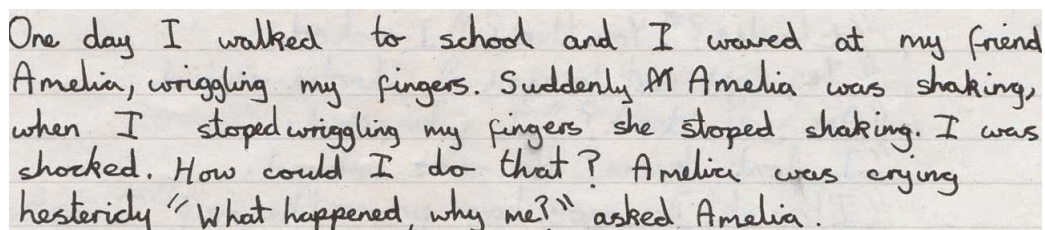
CHAPTER FIVE

DEVELOPMENT OF A TOOL FOR ASSESSING IMAGINATIVE WRITING IN DEAF CHILDREN



Once Upon time, there was Island called Neverland, I found island with my vet there becaufier fowers, sunny, beuaful trees, there was pite with ship, fluffy clouds and there cronkcoile who eat eat people. I live with my lost boys and beauful Sea blues. I live in tree with lost boys.

10 year old, deaf boy



One day I walked to school and I waved at my friend Amelia, wriggling my fingers. Suddenly M Amelia was shaking, when I stoped wriggling my fingers she stoped shaking. I was shocked. How could I do that? Amelia was crying hesterichly "What happened, why me?" asked Amelia.

9 year old, deaf girl

Which of the above texts extracted from the stories of two deaf children is more imaginative? On what basis can the imagination exhibited in these two stories be compared? These questions are very challenging and the answer to them is a very daunting task for any researcher engaged in the field of writing and imagination.

In the previous chapter, selected deaf children's stories were analysed in an attempt to identify which elements show imagination in writing. Whilst textual analysis is one

viable way to evaluate the extent to which deaf children express imagination in writing, it is suggested that an assessment tool is equally important.

This chapter aims to give an answer to the research question: “How can imaginative writing of deaf children be assessed?” The answer to this question is given by the development of an “Imagination Story Scale” as described here.

5.1 Early Development of the “Imagination Story Scale”

The main interest of the research was to explore how good deaf children are at writing imaginative stories. Tracking imagination in children’s writing was quite difficult as imagination is not something that can be easily measured and quantified. In the attempt to evaluate imaginative stories, features of imagination that are included in these stories had to be isolated. Some of the features that can be indicative of imagination were identified both through the literature and the presentation of analysis and results of a small sample of deaf children’s written stories (Chapter 4).

From the features of imagination identified in the previous chapter only those which can be quantified were chosen to form the imagination scale: characters, non-existent subjects/objects, innovative vocabulary, original ideas, anticipation/anxiety, innovative combination of words and correlation between things unrelated in reality. The scale was developed to be based on the number of times that each feature appeared in each story.

Before presenting the scale, clarification of each feature is given. In this first and very early attempt to develop a scale the stories collected for the pilot study were used.

5.1.1 Clarification of the features included in the imagination scale

Characters

The appearance of several characters in a story and the possible relations between them can contribute to the level of imagination that a story presents. When a story has more than two characters then it is suggested the plot of the story gets more interesting and complicated as there are connections between the characters. The stories were scored on each additional character.

Non-existent subject/object

This dimension of the imagination scale refers to objects or subjects that appear in the story but do not exist in reality. Every feature in the story that comes from imagination, and cannot possibly exist in reality, was characterised as a non-existent subject/object.

*“She wanted powers like a **magic jacket**.”*

The object “magic jacket” as used in the above sentence, taken from a child’s story, is an example of the clarification of the dimension “non-existent subject/object” used in the imagination scale. This element can be representative of fantasy. It was seen in Chapter 2 that fantasy is a form of imagination and according to Vygotsky (2004), a construct of fantasy may represent something new without any correspondence to any object that actually exists in reality.

Innovative vocabulary

Innovative vocabulary refers to words that do not exist in the vocabulary of a language. An innovative word for this study is a made-up word that is used in a particular story and that is the product of the writer's imagination. Innovative vocabulary does not refer to words that do not exist due to grammatical mistakes. The sentence given below, extracted from a story written for the purpose of the pilot study, illustrates the use of innovative/creative vocabulary:

*"Then suddenly I could feel **goldebbed arms** growing on me so I got up off the building and dived down into the street."*

Although the word "goldebbed" includes an actual word (gold) it is transformed and recreated into a new word which cannot be a misspelling.

Anticipation anxiety (plot predictability)

This refers to plot predictability. A story can be characterised as having a high imagination level when the completion of every scene leaves anticipation anxiety for what is happening next in the story. According to Dart (2001), imaginative writing is associated with the attempt to create the unexpected, to take risks. When there is anticipation anxiety in a story, the reader becomes more and more excited about the progression of the story.

Original idea

The use of the term “original idea” in the imagination scale refers to originality or novelty. Originality or novelty is shown by an idea which rarely appears in stories of the same topic. According to Craft (2000), being imaginative involves originality, because it involves a departure from the norm. Originality was considered as one of the key elements in the concept of imagination (see 2.2.4). The appearance of many original ideas in the story indicates that the story is highly imaginative. For example, most of the children’s stories in the pilot study were referring to the power of flying. A story which referred to magic power as power of transforming into different objects was considered to be original as it was uncommon among the stories on the same topic

Innovative combination of words

Innovative combinations of words are another feature that indicates imagination. Innovation refers to what is novel, original and unusual. An innovative combination of words is one that is rarely found in the common use of language. The sentence that follows, taken from the pilot study, illustrates the meaning of innovative combination of words as it is used in the imagination scale:

*“There was a **green sparkling globe**, so I picked it up....”*

The combination of the words: “green sparkling globe” is unusual and so indicates imagination.

Connection between things/actions unrelated in reality

This dimension of the imagination scale refers to a combination of things that does not exist in reality. In this dimension of the scale, there is cause and effect between things

that do not influence each other in reality. The following sentence, extracted from a story written for the purpose of the pilot study, clarifies the meaning of connection between unrelated things:

*“One day he **sneezed** and he splashed **a hole in the wall** and he was terrified. The next day he was **vomiting money** ...”*

It is obvious that in reality the connections described in the sentence above do not exist.

According to the features of imagination presented above, the imagination scale was put together. This is the way that it was first conceived and it looked like this:

Table 6 The Imagination Scale

Characters	Non-existent subjects/objects (NESO)	Innovative Vocabulary	Anticipation Anxiety (plot predictability)	Original Ideas	Innovative combination of words	Connection between things/actions unrelated in reality	Total
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	7
2	2	2	2	2	2	2	14
3	3	3	3	3	3	3	21

The explanation of the scoring follows:

Imagination score (0-21)

- 0 no indication of imagination in the story
- 0-7 indication of low imagination in the story
- 7-14 indication of an adequate level of imagination in the story
- 14-21 indication of high level of imagination in the story

Clarification of the table

Characters

Score: 0 1 2 3

- 0 no characters
- 1 one character
- 2 two characters
- 3 more than two characters

Non-existent subjects/ objects (NESO)

Score: 0 1 2 3

- 0 no appearance of non-existent subjects/objects in the story
- 1 appearance of one non-existent subject/object in the story
- 2 appearance of two non-existent subjects/objects in the story
- 3 appearance of more than two non-existent subjects/objects in the story

Innovative/ creative vocabulary

Score: 0 1 2 3

- 0 no innovative words are used in the story
- 1 just a single innovative word is used in the story
- 2 two innovative words are used in the story
- 3 more than two innovative words are used in the story

Anticipation anxiety (predictability of plot)

Score: 0 1 2 3

- 0 the story does not leave anticipation anxiety
- 1 leaves anticipation anxiety at the end of just one scene
- 2 leaves anticipation anxiety at the end of two scenes
- 3 leaves anticipation anxiety at the end of more than two scenes

Original ideas

Score: 0 1 2 3

- 0 no evidence of original thoughts/use of the same words as in the instructions of the topic given
- 1 a single original idea presented in the story
- 2 two original ideas presented in the story
- 3 three or more original ideas presented in the story

Innovative combination of words

Score: 0 1 2 3

- 0 no evidence of innovative combination of words
- 1 one innovative combination of words
- 2 two innovative combinations of words
- 3 more than two innovative combinations of words

Connection between things/actions unrelated in reality

Score: 0 1 2 3

- 0 no evidence of combination between unrelated things/actions
- 1 one combination between unrelated things/actions
- 2 two combinations between unrelated things/actions
- 3 more than two combinations between unrelated things/actions

5.1.2 Evaluation of the imagination scale

The scale presented above was an attempt to capture the features that can indicate imagination. For a better evaluation of the scale, a retired teacher with a lot of experience and interest in children's writing was recruited to score the stories collected in the pilot study and to comment on the scale's clarity and utility. In her attempt to score the stories she found out that it was very confusing and very difficult to give scores for each feature presented in the scale. She commented on the features as being "ambiguous" and "difficult to understand". She further suggested that the scale needed to be more detailed and more items needed to be included. Furthermore, it was pointed out that the way the scores were given based on the frequency with which each characteristic appeared in the story was actually inaccurate and not suggestive of imagination. She mentioned that for example the appearance of six characters is not suggestive of imagination as a story can only have one character but the story in which he/she is the protagonist includes a lot of magic elements and is very exciting.

Taking the above comments of the teacher into consideration, it was clear that the scale needed to be revised and more items needed to be included. Therefore, the various elements identified in the literature and in the analysis of deaf children's stories had to be included in a way that can be quantified and easy to understand by an independent rater.

5.2 Final Version of the “Imagination Story Scale”

The modification of the first version of the imagination scale was a long process which required a lot of thought and different perspectives were considered. The elements that indicate imagination (see 2.3.3 and 4.6) and criteria for story structure and plot identified both in the literature and in the presentation of analysis of deaf children's samples (see 2.3.3 and 4.6) were used. To overcome the issue of ambiguity as this was addressed in the early development of the scale it was decided that a more analytical framework was needed. The design of the framework of the scale was based on Carlson's (1965) analytical Originality Story scale (discussed in 2.3.3). In Carlson's scale the items identified to indicate originality were grouped under divisions.

Similar to Carlson's design this scale consisted of seventeen items which were scored from 1 to 5. The seventeen items were then grouped into four divisions according to the concept that the items share. All ratings had 1 as the lowest level of imagination and 5 as the highest level. It was decided not to include 0 in the scoring as it suggests that there is no indication of imagination in this item. Instead of 0 the term “Absent” was used to indicate that this item was not present in the story without affecting the overall score.

Main divisions

Story Structure	Absent	1	2	3	4	5
Beginning						
Ending						
Title						

Story Plot						
Initiating event						
Internal response						
Consequence						
Dialogue						
Suspense for the continuation of the story						
Connection between things unrelated in reality						

Linguistic Imagination						
Innovative use of words or words expressing vivid imagery						
Name invention						
Innovative connection of words						
Personification						

Originality						
Unusual theme or idea of the story						
Appearance of non existent subjects/ objects						
Ingenuity in solving situation						
Quantitative thinking						

In the main divisions of the scale, four scores were obtained, one for story structure, one for story plot, one for linguistic imagination and one for originality. These scores were calculated by taking the mean score for each division (for the calculation of the mean score 0 was used). The scores for each division were added up and then divided by how many there were. Therefore, the overall score for each division ranged from 0-5. The imagination scale as a whole, including the examiner's sheets of scoring, the manual for scoring and additional directions is included in Appendix 4.

The items placed under each division were tested for correlation using Pearson's correlation. If two variables correlate that means they are associated (Field, 2005). Pearson correlation can range from -1 to +1. This means that it can be a positive or negative correlation. The number gives information on the strength of the relationship. A correlation of +1 or -1 shows that there is perfect correlation which means that the value of one variable can be determined by knowing the value of the other variable. However, a correlation of 0 shows no relationship between the two variables (Pallant, 2005). Among the three stories there were differences in how the various items

correlated. This can be explained by the different topics of the stories and by the different performance of the children on each story (observed in the samples of individual children's stories presented in chapter 4). Also, the different total number (N) varies from feature to feature as in some stories some features were absent. Illustrative samples for the ratings 0, 1, 3 and 5 ***** and correlations between the features under each division follow. The illustrative samples were made-up. Phrases of the actual children's stories were not used as the whole manual for scoring (including the illustrative samples presented below) was given to the second rater of the stories when inter-rater reliability of the scale was measured.

Story Structure

Under the story structure there were items that are essential to the structure of a story. It was seen in 2.3.3 that the story schemes which define a story and comprise its structure are: beginning, middle, ending and title. The way that the sequence of events takes place in the middle of the story forms part of the plot of the story (see 2.3.3) and as such was not included here but in the Story Plot division.

Explanations of the features under story structure follow:

(1) Beginning

The beginning of the story is imaginative and gives the opportunity to the reader to create images about the story.

Absent - There is no beginning of the story.

***** Explanation for ratings of 2 and 4 were not included as according to Carlson (1965): "An instrument that has too many illustrations can be cumbersome" (p. 368)

- 1 - The beginning of the story is ordinary
Once in a normal house, in a normal town, on a normal day there was a normal boy who went to a normal school.
Once upon a time in a little village there was a girl called Maria
- 3 - The beginning of the story is different and not so ordinary
Once a fairytime there was a fairy born at the heart of the mountain
- 5 - The beginning of the story is very imaginative, extraordinary, very rare.
Last night I felt something come to me, a funny thing like a clown. I started wriggling and then heat vision came out of my eyes.

(2) Ending

Conclusion of the story or ending is considered to be unusual in children's stories and includes imaginative elements.

Absent - No ending. The story seems unfinished.

- 1 - The ending is ordinary
They lived happily every after.
- 3 - Conclusion or ending quite imaginative and different from most stories
The next day I woke up feeling weirdly and I became invisible for the rest of my life
- 5 - Highly imaginative conclusion or ending
The little super boy threw him to the big tree and he hit it and he fell down to earth and fell on statue of liberty and got crushed. His body was never found and the mystery is still alive.

(3) Title

The title of the story is considered to be unusual in stories and includes imaginative elements.

Absent - No title given.

- 1 - The title of the story is very ordinary and exactly taken from the stimulus given
The island
- 3 - The title of the story is quite imaginative and is modified in regard to the stimulus given
My chocolate island
- 5 - The title of the story is highly imaginative and totally different from the stimulus given
The story of my flying - invisible island

The correlations, for all three stories, between the items under story structure are presented in the tables below:

Table 7: Correlations of the features under story structure (3 stories)

Story 1	Beginning	Ending	Story title
Beginning	1	.51**	.15
Ending	.51**	1	-.04
Title	.15	-.04	1

** . Correlation is significant at the 0.01 level

Story 2	Beginning	Ending	Story title
Beginning	1	.60**	.44*
Ending	.60**	1	.27
Title	.44*	.27	1

** . Correlation is significant at the 0.01 level

* . Correlation is significant at the 0.05 level

Story 3	Beginning	Ending	Story title
Beginning	1	.27	.24
Ending	.27	1	.33
Title	.24	.34	1

* . Correlation is significant at the 0.05 level (2-tailed)

The correlation tables above showed a high correlation between beginning, dialogue and ending in the first two stories and a lower correlation in the third story. The title feature did not correlate strongly with the other features. Despite the low correlation of the title feature with the others in the first division it was decided to keep this feature under story structure. It was thought to be an essential component of stories (see 2.3.3 and Chapter 4) and an essential component of stories which could not fit under any other division.

Story plot

The Story plot of the Imagination scale consists of six elements: Initiating event, Internal response, Consequence, Dialogue, Suspense for the continuation of the story and Connection between things unrelated in reality.

The three items (Initiating event, consequence, unexpected event) consist of a single episode as this is outlined in Story Grammar (see 2.3.3). According to Story Grammar every story includes elements, such as: problem, attempts to solve it, and an analysis of the chain of events and description of characters' reactions to these events, which synthesizes the plot of the story, attempts to solve it, and an analysis of the chain of events and description of characters' reactions to these events (Dimino et al., 1990).

Although a lot of variation of the elements of Story Grammar exists (see 2.3.3), the items selected here (initiating event, response and consequence) are the core ones. Based on the fact that these items are only part of this division of the scale, it was decided to keep it simple for the scorer without adding other elements of story grammar. It is suggested

here that if the way that these elements were presented in the story were imaginative then that was enough to illustrate the imagination of the story plot without making it too meticulous. Dialogue was identified in the research studies using textual analysis of imaginative writing as an element that can establish the tone of the story and advance the plot (see 2.3.3). Its significance for the plot of the story was also indicated by the analysis of deaf children's stories in Chapter 4. Suspense for the continuation of the story and connection between things unrelated in reality were evident in children's imaginative stories (see 4.6) and their identification as elements exhibiting imagination and contributing to the plot of the story were based on the working definition of imagination (exploration of alternative possibilities and the unexpected).

Explanations of the features under story plot follow:

(4) Initiating event

The initiating event of an episode is imaginative and unusual.

Absent - There is no initiating event.

- 1 - The initiating event is very ordinary and frequently found in children's stories
They had a boat and they went sailing in the sea
- 3 - The initiating event is unusual and quite imaginative
One day I woke up and I was a bird and I flew out of the window.
- 5 - Very imaginative, genuine and extraordinary
Doctors told me that I had a weird illness

(5) Internal response

The protagonist's reaction to the initiating event is imaginative and original, uncommon in children's stories.

Absent - There is no internal response.

- 1 - The internal response is ordinary.
He had to control and drive the boat
- 3 - Internal response is genuine regarding the particular situation
I flew so high that I crashed into Big Ben

- 5 - Internal response is extremely imaginative and extraordinary
He went to a hospital on Mars so the doctors could treat his weird illness

(6) Consequence

The result of the protagonist's action is so imaginative and unusual that it rarely appears in children's stories.

Absent - There is no result of the protagonist's action.

- 1 - The result of the protagonist's action is ordinary
So, they found an island where they could eat and sleep at night
- 3 - The result of the protagonist's action is unusual but not imaginative
After crashing everybody thought I was dead but I was alive and turned invisible
- 5 - The result of the protagonist's action is very unusual and highly imaginative
He escaped from the hospital by turning into a rhino and smashing through the wall.

(7) Dialogue

The dialogue included in the story is so imaginative and unusual that it is rarely found in everyday life.

Absent - There is no dialogue in the story.

- 1 - The dialogue of the story is very ordinary and repetitive
Mum said: "Oh my god."
I said "Mum don't worry I will go to school."
- 3 - The dialogue used is rarely found in children's stories but is not so imaginative
"What are you going to do now? You won't be able to go back."
"I have a plan. I will sneak out of the window, directly to the sea, along the ocean"
- 5 - Highly imaginative dialogue, very vivid which is very rarely seen in children's stories
"He is coming. Quickly change into a rhino"
"I can't. The only thing I can be now is something small as a mouse! Here you are: Hold my tail"

(8) Suspense for the continuation of the story

There is suspense/anxiety for the continuation of the story and the plot is highly unpredictable.

Absent - No suspense, the plot of the story is very predictable.

- 1 - The story is fairly predictable
- 3 - The story is predictable but there is suspense in some parts of the story
- 5 - Very unpredictable, there is suspense for the continuation throughout the story

(9) Connection between actions/things unrelated in reality

Things that are not related in reality are connected or combined.

Absent - There is no connection between things unrelated in reality in the story.

- 1 - The connection between things in reality is usual and not imaginative
I hit the tree and it falls
- 3 - The connection between things unrelated in reality is not common in children's stories and is quite imaginative
He was vomiting money
- 5 - The connection between things unrelated in reality is highly imaginative
He sneezed and he splashed a hole in the wall and he was terrified

The correlations of the elements under story plot for all three stories are presented below:

Table 8: Correlations of the features under story plot (3 stories)

Story 1	Initiating Event	Internal response	Consequence	Dialogue	Suspense for the continuation of the story	Connection between things unrelated in reality
Initiating event	1	.80**	.71**	.42*	.51**	.40*
Internal response	.80**	1	.71**	.39	.39*	.41*
Consequence	.71**	.70**	1	.66**	.62**	.60**
Dialogue	.42*	.38	.66**	1	.64**	.58*
Suspense for the continuation of the story	.51**	.39*	.62**	.64**	1	.38*
Connection between things unrelated in reality	.41*	.42*	.60**	.58*	.39*	1

** . Correlation is significant at the 0.01 level

* . Correlation is significant at the 0.05 level

Story 2	Initiating event	Internal response	Consequence	Dialogue	Suspense	Connection between things unrelated in reality
Initiating event	1	.76**	.72**	.37	.33	.31
Internal response	.76**	1	.82**	.29	.53**	.25
Consequence	.72**	.82**	1	.537**	.63**	.14
Dialogue	.37	.28	.53**	1	.35	.40
Suspense	.33	.53**	.63**	.355	1	.08
Connection between things unrelated in reality	.31	.25	.15	.41	.08	1

** . Correlation is significant at the 0.01 level (2-tailed).

Story 3	Initiating event	Internal response	Consequence	Dialogue	Suspense	Connection between things unrelated in reality
Initiating event	1	.68**	.48**	.56**	.317	.80**
Internal response	.68**	1	.54**	.62**	.33	.79**
Consequence	.48**	.54**	1	.45*	.56**	.56*
Dialogue	.56**	.63**	.45*	1	.29	.55*
Suspense	.31	.33	.56**	.29	1	.71**
Connection between unrelated in reality things	.80**	.71**	.56*	.55*	.71**	1

** . Correlation is significant at the 0.01 level

* . Correlation is significant at the 0.05 level

The general conclusion that can be drawn from the correlations presented above is that there was great variation in the correlation between the features in the three stories.

The lowest correlation with all the items was exhibited in story 3 by the item “connection between things unrelated in reality” although it correlated well in the other two stories. Low correlation in story 3 was also observed for the item “suspense for the continuation of the story”. Nevertheless, all the features in all three stories correlated positively with each other showing that when there is imagination exhibited in one item there is also imagination exhibited in the other item under this division.

Linguistic imagination

Under linguistic imagination are grouped items that specify how imaginative a story is in the language used. All the items included in this division were derived from the Minnesota Test of Creative Thinking and Writing and from the textual analysis of imaginative writing by Burroway (See 2.3.3 for a full discussion of these assessments and for the reasons for choosing these items).

The linguistic imagination of the imagination scale includes five items: Innovative use of words or Words expressing vivid imagery, Name invention, Innovative connection of words, and Personification. All the above items follow:

(10) Innovative use of word or words expressing vivid imagery

Words that are either new (product of children's imagination) or common words used in a way that allows for visualisation.

Absent - No new words or words expressing vivid imagery.

- 1 - words expressing imagery are used but are rather ordinary

Whoops!

Eek!

- 3 - Syllables or words used which are innovative or vivid

The bee managed to fly away from the explosive bomb...ba va boom!

- 5 - Syllables or words are used which are vivid, unusual and innovative.

She was an aliasement

He opened a hole in the wall with his feet: smig- blang -pow!

(11) Name invention

Invention of names given to people, which are imaginative .

Absent - No names used in the story.

- 1 - Ordinary names are used in the story

Ben, Helen

- 3 - The names used are new and quite imaginative

Neve

- 5 - New, non- existent names are used which are unusual and highly imaginative

Amiemels

(12) Innovative connection of words

Connection of words is unusual, not used in everyday life and imaginative.

Absent - there is no innovative connection of words.

- 1 - Connection of words ordinary and usual in children's stories

Magic jacket

- 3 - Connection of words is unusual and quite imaginative

Green sparkling globe

- 5 - Connection of words is odd, unusual and highly imaginative

Webbed arms

(13) Personification

Human characteristics are attributed to non-human subjects or objects.

Absent - No human characteristic attributed to subjects or objects.

- 1- Human characteristics attributed to subjects/ objects are ordinary
The rabbit went for a run in the park
- 3 - Human characteristics attributed to subjects/ objects are unusual, quite imaginative
The car went to have a cigarette
- 5 - Human characteristics attributed to subjects/ objects are very unusual, they rarely appear in children's stories and they are highly imaginative
I flew up to the sky and the sun talked to me

The correlations of the above items are presented in the tables below:

Table 8: Correlations of the features under linguistic imagination (3 stories)

Story 1	Innovative use of words or words expressing vivid imagery	Name invention	Innovative connection of words	Personification
Innovative use of words or words expressing vivid imagery	1	.62	-.05	.00
Name invention	.62	1	.43	.08
Innovative connection of words	-.05	.43	1	.59
Personification	.00	.08	.59	1

Story 2	Innovative use of word or words expressing vivid imagery	Name invention	Innovative connection of words	Personification
Innovative use of words or words expressing vivid imagery	1	.49	.25	.42
Name invention	.49	1	-.22	.08
Innovative connection of words	.25	-.22	1	.34
Personification	.42	.08	.34	1

Story 3	Innovative use of word or words expressing vivid imagery	Name invention	Innovative connection of words	Personification
Innovative use of word or words expressing vivid imagery	1	.31	.66	.08
Name invention	.31	1	.21	-.08
Innovative connection of words	.66	.21	1	.42
Personification	.08	-.08	.42	1

The correlations presented in the tables above demonstrated that there was not high correlation between the items in all the three stories. This can be explained by the fact that the items under this division indicated higher levels of imagination which can be found in very imaginative stories. However, it was decided to keep this division in the imagination scale because it was suggested that linguistic imagination was an important characteristic that has to be considered when looking for imagination in written stories. As it was also stated in the presentation of the stories of four children in chapter four, the stories that were considered as highly imaginative were the ones that included characteristics of linguistic imagination.

Originality

Finally, under the division originality the items included specify how original and imaginative the ideas used in the stories are. Originality is one of the core elements of imagination as was evident both in the literature review and in the qualitative analysis of the stories. The more original the ideas are in a story the more imaginative a story is. All the items presented in this division are adapted from Carlson's Originality Story Scale (1965). The item "appearance of subjects/objects non-existent in reality" appears in the above scale as "fantastic features". However, it was decided to use a less ambiguous and simpler term to refer to subjects or objects that are the creation of children's fantasy and do not exist in reality (for example monsters).

The originality portion of the imagination scale includes four items: Unusual theme or idea of the story, Appearance of subjects/ objects non-existent in reality, Ingenuity in solving situations, and Quantitative thinking. Illustrations follow:

(14) Unusual theme or idea of the story

The main idea or theme of the story is very imaginative and unusual in regards to the given title.

Absent - No novel theme or idea in the story.

- 1 - Novel idea or theme used, but ordinary in children's stories
I had the power to fly to be invisible
- 3 - Novel idea or theme is quite imaginative
The power she wanted was to be clever at everything with her jacket and she wanted to be invisible when she opens her pocket.
- 5 - Novel idea or theme used very imaginative and very unusual which appears rarely in this population sample
He had a power. The power was to be able to shape shift!
He was a normal boy who sat on a normal bean tree and the normal tree grew as fast as the speed of the light and then the normal boy jumped from planet to planet and he got to Pluto and could see nothing.

(15) Appearance of subjects/ objects non-existent in reality

Subjects or objects that do not exist in reality are created and included in the stories.

Absent - No appearance of subjects/ objects non-existent in reality.

- 1 - Subjects/objects that do not exist in reality are created but they are ordinary and common in children's stories
He turned into a dinosaur and ran away.
- 3 - Subjects/objects that do not exist in reality are created which can appear in children's stories quite frequently and they are quite imaginative
My best friend was a ghost; we used to talk every day
- 5 - Subjects/objects are that do not exist in reality are created which rarely appear in children's stories and are highly imaginative
I turned into a Minotaurhorse; which is bull, horse and person.

(16) Ingenuity in solving situations

Absent - No solution for a problem appears.

- 1 - Situations or problems are solved in an ordinary, very common way
I killed the bad guys and saved the princess
- 3 - Situations or problems solved in a way that is quite imaginative
A train was behind me and I ran super fast down the street and the train never caught up with me
- 5 - Situations or problems solved in a way that does not appear in children's stories and is highly imaginative
He wanted to go away from trouble so, with the help of the bean tree he went out into space and straight through the moon.

(17) Quantitative thinking

Numbers are used in an unusual way. There is exaggeration in the use of numbers and

they are used with meticulous detail.

Absent - No use of numbers.

- 1 - Numbers are used in an ordinary way
They couldn't handle him so she sent him to Area 51 because of his unusual illness
- 3 - Numbers are used to broaden the story, quite imaginative
Super kid lived in Pluto and lived to 157 years old and his body was never found and the mystery still lives till this day 382 years later.
- 5 - Numbers used in an exaggerated way and with meticulous detail, very imaginative
Then after that I fell into the ocean and 40.000 sharks chased me but luckily I could swim super fast.

The correlations of the features under the originality division are presented below:

Table 9: Correlations of the features under originality (3 stories)

Story 1	Unusual theme or idea of the story	appearance of non existent subject object	Ingenuity in solving situation	Quantitative thinking
Unusual theme or idea of the story	1	.57**	.09	.33
Appearance of non existent subject	.56**	1	.28	.42
Ingenuity in solving situation	.09	.28	1	.61
Quantitative thinking	.33	.42	.61	1

** . Correlation is significant at the 0.01 level (2-tailed)

Story 2	Unusual theme or idea of the story	Appearance of non existent subjects or objects	Ingenuity in solving situation	Quantitative thinking
Unusual themes or idea of the story	1	.48*	.44*	-.24
Appearance of non existent subjects or	.47*	1	.07	-.10
Ingenuity in solving situation	.44*	.07	1	.39
Quantitative thinking	-.23	-.10	.39	1

*. Correlation is significant at the 0.05 level (2-tailed)

<p>** . Correlation is significant at the 0.01 level</p> <p>* . Correlation is significant at the 0.05 level</p>				
Story 3	Unusual theme or idea of the story	existent subject/objects	Ingenuity in solving situation	Quantitative thinking
Unusual theme or idea of the story	1	.57*	.69**	-.55
Appearance of non-existent	.57*	1	.94**	1.00**
Ingenuity in solving situation	.69**	.94**	1	-.61
Quantitative thinking	-.55	1.00**	-.61	1

The above tables demonstrate that under the originality division there was great variation of the items' correlation between the three stories. In all three stories there was quite high correlation between “unusual theme or idea of the story” and “appearance of non-existent subjects/objects”. The item that was less correlated with the other items in all three stories was “quantitative thinking”. As was also observed in the tables above this item did not appear in many children's stories. This can be explained by the fact that exaggeration in the use of the numbers can demonstrate high levels of imagination and it is mostly used by older children. However, the decision made was to keep this feature in the division as it is indicative of originality and can play an important role on the overall imagination in written stories.

Additional division of the scale

Taking into consideration the fact that imagination is a very controversial term and very difficult to quantify an overall score of imagination of the story was added. This score can be given by each scale user based on each user's judgement of imagination of the

story. It aimed to balance the individual scores given under the detailed divisions of the scale in an attempt to present imagination as a whole. The difficulty of quantifying imagination was also evident when the features included in the imagination scale were analysed above. The items included under the additional divisions of the scale are presented below:

Overall imagination of the story

Give an overall score of the story indicating how imaginative the story is overall by ticking the relevant box. The ratings are from 1-5, 1 indicating that the story is ordinary and 5 indicating that the story is very imaginative.

	1	2	3	4	5
Overall score of the story					

The use of different criteria for ratings was refined by including descriptive sentences in the manual for scoring. It is expected that assessors would receive training in order to achieve reliable scoring but that this training would not be extensive and could be carried out in one day.

5.3 Reliability of the Measurement

According to Everitt and Wykes (1999) there are three types of reliability of a measurement. These are: Internal consistency (explored in Section 5.2 indicating

correlation of the items under each division of the scale), inter-rater reliability and test re-test reliability. An attempt to assess reliability of the measurement is described below.

5.3.1 Inter-rater reliability

Inter-rater agreement can be measured by calculating the degree of correlation between the two sets of ratings from the two evaluators. There are a number of different statistics to calculate correlation between the observers. Some of the correlation coefficients are the following: Pearson's r , Spearman, Kendal, Cohen's Kappa and Gamma. The question that then arose was which one was more appropriate to use in this research project? The answer is dependent on the type of variables. The variables used in the "Imagination Story Scale" are ordinal (1, 2, 3, 4, 5). These variables were coded according to the level of imagination (1 = no imagination, 3= moderate imagination, 5=high imagination). In ordinal variables the categories can be rank ordered in a meaningful and relevant way (Connolly, 2007). The correlation coefficient that best applies for ordinal variable and that was used to correlate the imagination scores given by the two raters was Gamma correlation. Its value ranges between +1 to -1 with +1 demonstrating absolute agreement between the raters.

Scoring was carried out on a sample of thirty written productions (of both hearing and deaf children) by two independent assessors (the researcher and a teacher). The second assessor was a teacher of English. This teacher was briefly given guidelines concerning the scale and she was provided with the complete booklet of the scale. The stories that were scored by the two assessors were randomly chosen from the three topics from the

two groups of children (hearing and deaf). The researcher randomly chose five stories from each topic, fifteen for deaf children and fifteen from hearing children. It was decided to assess only a small number of stories and not all of them as that would have been a lot of work for the teacher and she did not have the time to do it. The teacher of English who was the second assessor (different from the one who evaluated the early version of the scale) was not given information on which stories were produced by deaf and which by hearing children. Having agreed to use Gamma as a measure of association, correlations between the two coders are made. The table in the next page demonstrates the correlations between markers one and two.

Table 10: Gamma correlation between coder 1-2

Features	coder 1-2
Beginning	.54
Dialogue	.91
Ending	.80
Title	.90
Initiating event	.63
Internal response	.57
Consequence	.47
Connection between unrelated in reality things	.57
Innovative use of words or words expressing vivid imagery	.73
Name invention	.87
Innovative connection of words	.89
Personification	.80
Unusual theme or idea of the story	.49
Appearance of non existent subject/objects	.56
Ingenuity in solving situations	.53
Quantitative thinking	.91
Overall score (additional division)	.65
Average of the above	.69

By observing the above table helpful conclusions for the reliability of the scale can be drawn. The first observation that can be made by looking at each feature separately is that all the correlations are positive. However, some of the correlations are not particularly high with some being below .50 which exhibits low agreement between the coders. These low correlations, especially for some features, raised concerns for the reliability and the understanding of those particular variables. Despite the small number of stories scored the correlation was considered high (.69). According to Pallant (2005) a correlation from .50 to 1.0 is large. Given a larger number of stories it was likely that even higher correlation might have been obtained. In addition, the imagination scale deals with a complex set of ideas that can be indistinct and quite subjective. It is important to mention that the correlation of the overall score (additional division of the scale) was as high as the average correlation (.65). This high correlation suggests that stories which were considered by the researcher to be imaginative were also considered imaginative by the independent scorer and that the features under the divisions of the scale are in fact indicative of imagination as they gave the same correlation with the subjective overall score.

5.3.2 Test-retest reliability

In order for the reliability of the scale to be ensured, test-retest work should be done. The test-retest reliability is estimated by performing the same survey with the same respondents at different moments of time. The closer the results, the greater the test-retest reliability of the instrument (<http://www.statistics.com/resources/glossary/t/trtreliab.php>). Therefore, a number of stories had to be re-marked by the same evaluator. For the

purpose of the retest, ten random cases were chosen and remarked. The results of the retest are exhibited in the table below:

Table 12: Re-test between coders 2 and 3

Features	coder 2-3
Beginning	1.00
Dialogue	1.00
Ending	1.00
Title	.86
Initiating event	.00
Internal response	1.00
Consequence	.57
Connection between unrelated in reality things	1.00
Innovative use of words or words expressing vivid imagery	.60
Name invention	.71
Innovative connection of words	1.00
Personification	1.00
Unusual theme or idea of the story	1.00
Appearance of non existent subject/objects	1.00
Ingenuity in solving situations	1.00
Quantitative thinking	1.00
Overall score (additional division of the scale)	.92
Average of the above	.92

A close observation of the table above exhibits quite a high correlation between the first and the second time that the stories were scored. It has to be noted that the coder 2 and 3 are now the same person (the researcher) who marked the same stories again at a different time (a month difference between the two assessments). In conclusion, correlation is very high and warrants continuing to use the re-defined imagination scale for coding the data.

Using the process described above it was ensured up to a certain level that the scale was reliable enough to be used for the purpose of this research.

5.4 Validity of the Measurement

The British Psychological Society (BPS) Steering Committee on Test Standards (1989) described the following types of validity: *content validity*, *construct validity* and *criterion validity* (concurrent and predictive validity).

5.4.1 Content validity

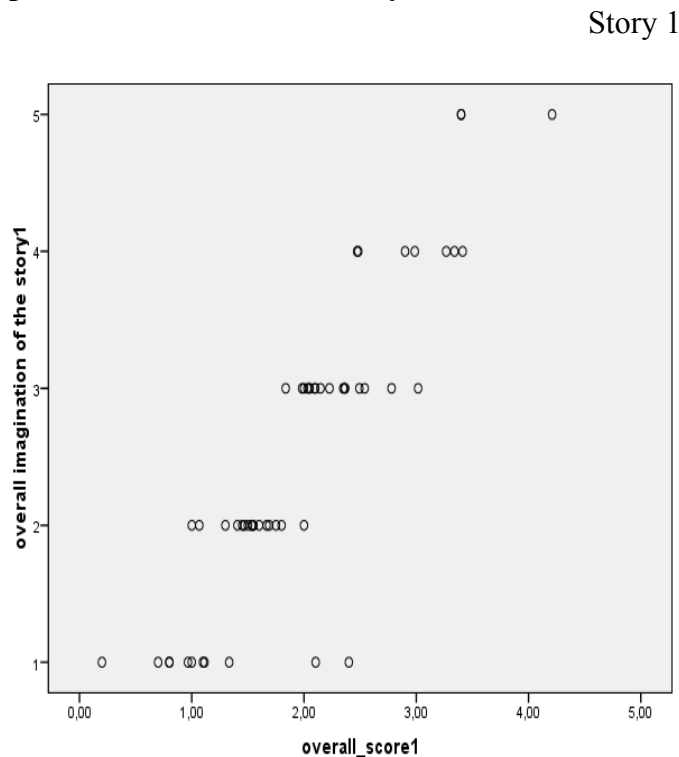
According to Cronbach and Meehl (1955), content validity refers to the establishment that the items included in a measurement are a sample of the universe in which the investigator is interested. In the present measurement the universe of items was all the various characteristics that could indicate imagination. Due to the fact that imagination is conceptually a very difficult term to quantify and assess the items included in the final version of the “Imagination Story Scale” were redefined and re-evaluated many times. These characteristics were primarily identified by the literature. The content validity of the “Imagination Story Scale” was also established by another person (a teacher of English) who initially commented on the items, and based on her comments the scale was revised for the items to be indicative of imagination.

5.4.2 Construct validity

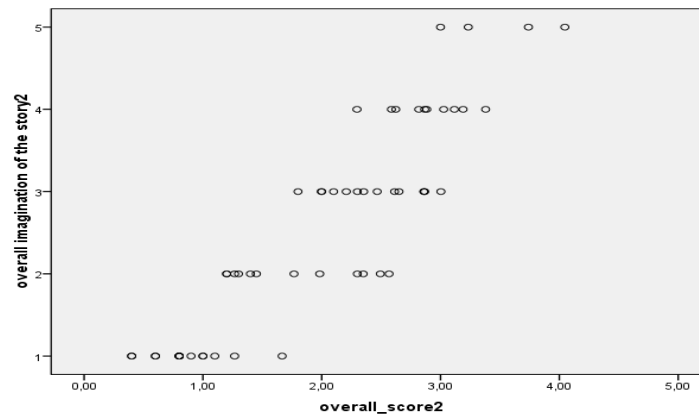
Construct validity is a way of assessing validity by investigating if the measure really is measuring the theoretical construct it is supposed to be (Bryman and Cramer, 1990).

Thus, in the present in order to claim construct validity of the “Imagination Story Scale” it needs to measure what the content of the research questions refers to: imagination. Due to the highly subjective and ambiguous meaning of the term imagination the establishment of the construct validity of the study was a very difficult task. The first step towards content validity of the scale was the use of different methods in order to generate the features which comprised the “Imagination Story Scale”. Thus, the construct of the divisions of the scale was based on the characteristics of imagination which derived from the qualitative analysis of the stories (see chapter 4). Also, construct validity was assured by using the overall imagination (additional division) to back up the scores derived from the main divisions of the scale. If the mean score of imagination from the main division of the scale correlated to the score of the overall imagination given by the coder (additional division) the content of the scale would actually measure imagination. A scatter plot for each of the three stories presenting the two scores mentioned above demonstrates how compatible the two scores are:

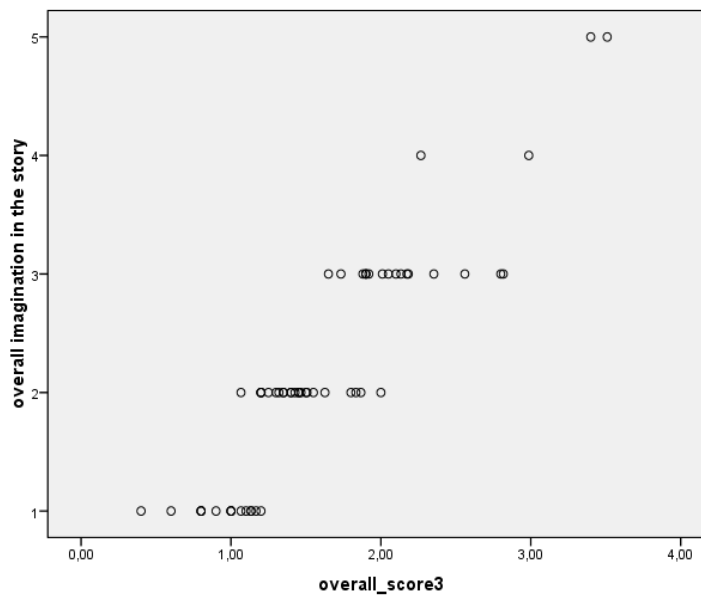
Figure one; scatter plots of inter-rater reliability



Story 2



Story 3



From the scatter plots above, there appears to be a positive correlation between the two variables. Children who scored low in the overall imagination in the additional division

of the scale, also obtained a low score in the overall mean score of the scale. Children who scored high in the overall imagination in the additional division of the scale, also obtained a high score in the overall mean score of the scale. The high compatibility of the two scores showed that the features that were selected for each division of the scale actually were indicative of imagination.

Criterion validity

Under criterion validity two types of validity are listed: concurrent validity and predictive validity (BPS, 1989). According to Robson (2002) concurrent validity is studied when there is link between the scores of the test in question and another test. Thus, in order for criterion validity of a test to be established, the investigator administers the test and then administers an independent criterion (a similar test) on the same subjects and computes correlation. As Cronbach and Meehl (1955) state if the score from the test in question and the criterion score are derived at the same time then this is concurrent validity. If on the other hand, the criterion is obtained some time after the test is given then this is predictive validity. In the present study, concurrent validity was very difficult to obtain as there is no similar measurement as the “Imagination Story Scale” which assesses imagination. It is suggested though, that predictive validity of the “Imagination Story Scale” can be studied in the future if similar measurements are designed.

5.5 Limitations of the Scale

Although most of the results discussed above are positive in providing support for the psychometric properties of the scale, the study is by no means free from limitations. In fact, the present study may be regarded as only pilot in nature. One of the limitations comes from the purposive sampling. However, as was discussed earlier, random sampling could not have been used in this study based on the nature of the population under investigation. The second limitation is that the sample size was too small for a valid factor analysis exercise. The final limitation is that the above study provided no evidence as to the criterion- related validity of the scale as no similar scales exist.

5.6 Conclusion

This section attempted to answer the question: “How can imaginative writing of deaf children be assessed?” It was considered really important to find a way of assessing deaf children’s imagination in writing especially as deaf children have been traditionally “accused” in the literature as being stilted and unimaginative (Chapter 2). This research allows value to be attributed to the imaginative writing produced by deaf children. For this purpose the “Imagination Story Scale” was developed. As was presented above, a great deal of thinking and consideration has been put in the design of this scale. Although there are some limitations in the design of the scale, certain types of reliability can be ensured. Despite the fact that all types of validity cannot be guaranteed due to the developmental nature of this study, it demonstrates that in fact it is possible to construct a scale to assess imaginative writing.

By developing a scale to analyze imaginative writing, objectivity and agreement on assessing deaf children's imaginative writing is gained. However, other elements involved in imaginative writing such as the exploration of feelings and thoughts of the writer might be neglected as they are difficult to quantify.

In conclusion, this scale with some further development and further research can be a useful tool for teachers in deciding how imaginative deaf children are in their writing. This is very significant because presently deaf children's imaginative writing is underestimated and not evaluated appropriately.

CHAPTER SIX

IMAGINATIVE WRITING ANALYSIS

In the previous chapter the process of decision making concerning the development of the “Imagination Story Scale” was described. The focus of this chapter is the analysis of the data using both quantitative and qualitative analysis tools. In an attempt to give answers to the research questions raised in Chapter 1 the imaginative stories produced by both deaf and hearing children were analysed using the “Imagination Story Scale” presented in Chapter 5. In order to support the quantitative analysis and to supplement the results obtained from this newly developed scale, interviews collected from the Teachers of the Deaf children involved in the research were used. The purpose of the interview analysis was to provide a deeper understanding of the results obtained by the quantitative analysis. Thus, the teachers’ answers are presented together with the results from the scale. Results are presented in relation to the research questions:

- Do deaf children exhibit imagination in their writing?
- Which factors affect deaf children’s imagination?

6.1 Imaginative Writing in Deaf and Hearing Children

The aim of this section is to analyse the overall achievement of children in imaginative stories based on the total score and then on the main and additional divisions of the “Imagination Story Scale” as these were presented in Chapter 5. In order to illustrate and provide a more in-depth knowledge of the findings from the quantitative analysis the teachers’ interviews are used in various places in this section. After presenting the

overall scores of the children in the scale, the teachers' perceptions of imagination are discussed. It is suggested that a teacher's perception of imagination can have an impact on the way children express themselves. In an attempt to give an answer to the first of the two research questions presented above it is considered important to explore what teachers comprehend by the term 'imagination'.

6.1.1 The overall achievement of deaf and hearing children

The focus of this sub-section is to provide evidence on the performance of deaf and hearing children on imaginative story writing. The performance of the children is here presented based on the total score for imaginative writing (see Chapter 5).

First, descriptive statistics were used to examine and summarise the scores obtained for the imaginative stories of deaf children. The result is shown in Table 13 below.

Table 13: Summary of descriptive statistics of the overall score of deaf children in the three stories

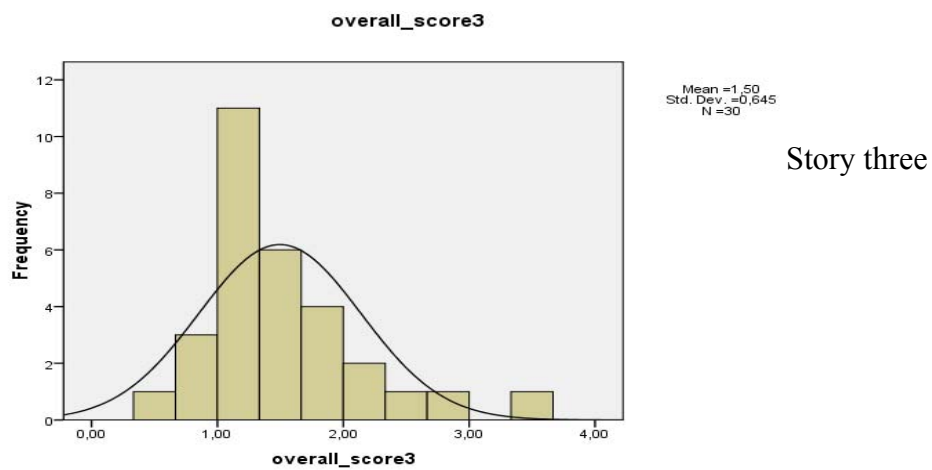
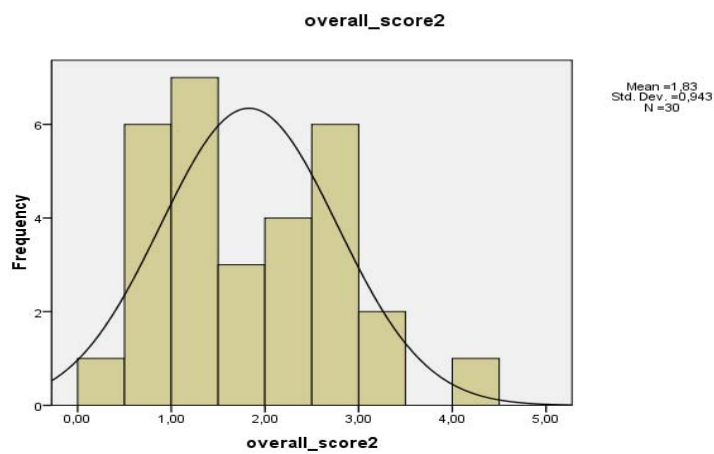
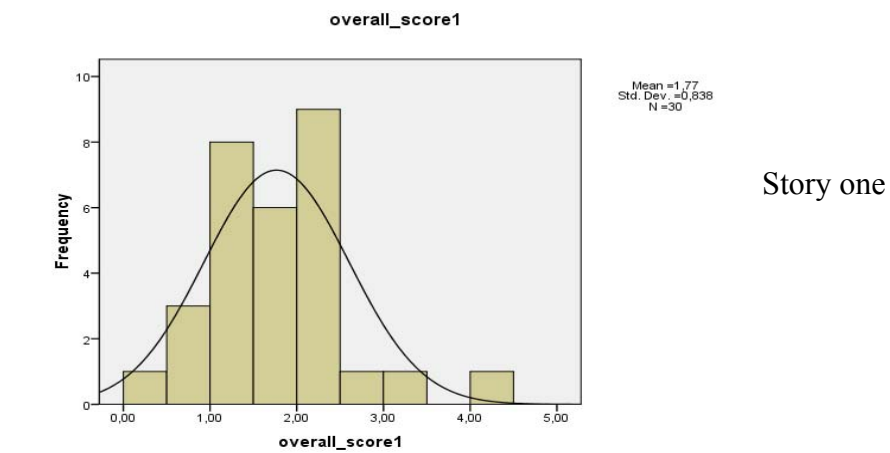
	N	Minimum	Maximum	Mean	Std. Deviation
Total score 1	30	.20	4.21	1.77	.84
Total score 2	30	.40	4.05	1.82	.94
Total score 3	30	.40	3.51	1.50	.64

As is presented in the table above the total number of deaf children was thirty (N=30).

The range of scores differed in each of the stories. From the table above it can be

concluded that two- thirds (N=20) of deaf children achieved a score between .93 and 2.61 in story one, in story two between .88 and 2.76 and in story three a score between .86 and 2.14. Thus, the highest score was obtained in story one. As presented in the histograms below the scores from the three stories written by deaf children have some approximation to the normal distribution curve. It is observed that in all three stories, no story received the highest score (5), which may imply that the deaf children did not exhibit the highest level of imagination in their stories or it was very difficult for the assessor to give a score for these high levels of imagination.

Figure 2: Histogram of the scores obtained by deaf children in the three stories



As it is presented in the histograms above in stories one and three most of the scores occur in the centre while in story two most of the scores occur in the left. In story one most of the deaf children scored between 1 and 2 whereas in the second story most of the deaf children scored either 1 or 3.

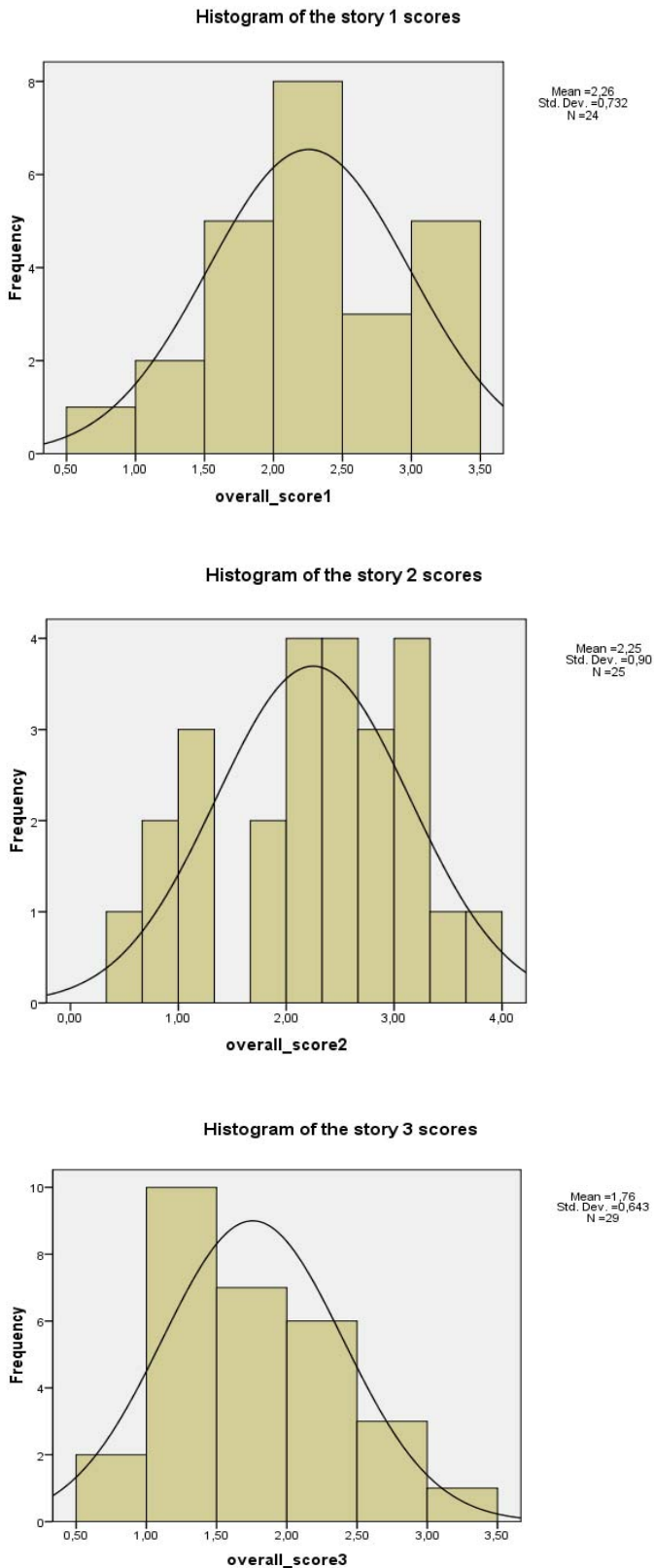
Descriptive statistics were also used to calculate the scores of the hearing students.

Table 14: Summary of the descriptive statistics of the overall score of hearing children

Mean score	N	Minimum	Maximum	Mean	Std. Deviation
Overall score1	24	.80	3.41	2.25	.73
Overall score2	25	.40	3.74	2.25	.90
Overall score3	29	.60	3.40	1.76	.64

As presented in the table above, not all the hearing children (N=30) wrote all three stories. Thus, there are 24 stories for the first topic, 25 stories for the second topic and 29 for the third topic. As is shown in the table above, two-thirds of hearing children obtained a score approximately for story one between 1.5 and 2.9, in story two between 1.3 and 3 and in story three between 1.1 and 2.1. The distribution of the population is approximately normal as is presented in the histograms below.

Figure 3: Histogram of the scores obtained by hearing children in the three stories



It is interesting to see from the histograms above that in the first story the distribution of hearing children is centered around a mark of 2, whereas in the second story it is centered around a mark of 2.50 to 3.50 and in the third story the distribution is centered around a mark of 1. In all three stories, no story scored 5 and in particular only in story two were there some children who obtained a score greater than 4.

Comparing the two tables (Tables 13 and 14) as these are presented above it can be concluded that based on the mean value in the overall score of imagination, hearing children scored slightly higher than the deaf children. However, the maximum scores (story one: 4.21, story two: 4.05, story three: 3.51) in all three stories were achieved by a deaf child (see Tables 12 and 13). It is speculated that this child's imagination in writing was so high it out performed all the others (both deaf and hearing). It is suggested that hearing children overall did not perform exceptionally well based on the fact that no hearing child achieved a maximum score of 5.

Adopting a more critical perspective on deaf and hearing children's performance as this is presented in the tables above, the differences in the mean scores are so small that they cannot be considered important and as a result cannot allow for safe conclusions to be drawn

Therefore, it is important to see if there is great variation between the scores of the two groups of children. Whereas an independent t-test could have been used in order to see if there is any difference between the two groups; due to the fact that the data are

approximately normally distributed and the size of the sample is small a non-parametric test was considered more appropriate. As Pallant (2005) suggests, non-parametric techniques are best when the samples are small and when the data do not meet the stringent assumptions of the parametric techniques. The non-parametric test used here is Mann-Whitney U Test which is the alternative to the t-test for independent samples. For the first story the significance level was $p = .02$ indicating that there was variation in the scores between the two groups. In the second story, the significance level was $p = .09$ which shows that there was no variation in the scores between deaf and hearing children. Finally, in the third story, the significance level was $p = .06$ showing that it was close to significance .

Thus, regarding the overall mean score as this is obtained by the “Imagination Story Scale” there appears to be a difference in the performance of deaf and hearing children for at least one of the story topics. However, it is crucial to mention that the sample is quite small for drawing safe conclusions on whether overall there is a significant difference between deaf and hearing children.

At this point of the analysis, and in order to illustrate the statistical results presented above, it is important to discuss teachers’ views on imagination and creativity and their perceptions of deaf children’s performance.

6.1.1.1 Teachers' definition of imagination

The first question that was posed to the teachers was "Can you please tell me what you think imagination is?" Before giving an answer to this question, all teachers commented on the difficulty they had in thinking of an answer. They said that they had it in their heads but it was very difficult to express it in words and come up with a definition:

"It's strange, isn't it, because although I've got an answer sorted in my head the words aren't there really." (Teacher 7)

In their attempts to come up with a definition or explanation of what imagination is, most of the teachers gave examples from the classroom. They were trying to think of how children perceive imagination and how they experience it in the classroom in order to conclude what imagination is for them:

"Children develop through their play; through role play; through drama activities. Role play areas are very good for creative imagination: dressing up; story boxes; artefacts." (Teacher 4)

This teacher gave examples of what children can do in the classroom to exhibit creative imagination and how they express it through activities. She stated that once a stimulus is given to the children then they take the lead and they explore imagination. After giving examples of what children can do with their imagination, teachers attempted to give an answer to the question. For most of the teachers (five out of seven) imagination is about ideas and images that people hold.

One of the teachers came up with a definition of imagination in which she suggested that it is a combination of both ideas and pictures that one already has. However, she did not

go beyond this definition to explain it any further. Another teacher gave a similar explanation of imagination combining pictures and ideas. Although she gave this definition of imagination, she made the distinction between having imagination and using your imagination.

“I think it’s where you have ideas in your head and you can make up whichever ideas you want to have. And it’s also where you’ve got pictures in your head - images. But if you are saying: “Use your imagination” then you are saying: be creative; inventive; create things; make up whatever you want, I suppose.”
(Teacher 2)

For this teacher, imagination was about using and combining the ideas one has in one’s head in order to produce something different. Although she supposed that the use of ideas that someone has in their head is imagination, when it comes to using imagination and putting it into practice, then creativity goes together with imagination in order to produce or to invent something. It is speculated that when this teacher referred to ideas that “you have in your head”, she referred to experiences that people gain from their life.

The notion of imagination for the teachers (all seven of them) was associated with experience the person already has. They all stated that experience forms the basis of imagination and it is difficult or impossible to imagine something if one does not have some kind of experience of what is being imagined. Therefore they claimed that these ideas that people have in their heads are formed through experience:

“Imagination is thinking about something that you have probably experienced but you have put it into a different context. To have imagination without some experience is quite difficult. We can imagine things but we’ve got to relate it to something we already know.” (Teacher 1)

It seems that for the teachers, imagination is based on something that has been rehearsed first, that it is part of the person in order to be able to imagine it. But, where does this experience that teachers talk about come from? For some teachers this experience comes from people’s lives and things that they have experienced. Therefore, for them imagination is based on things that a person has done before and in order to imagine a lot of recounting is involved.

For other teachers experience does not come directly from people’s lives and actions but from reading, talking to people or watching a film. The knowledge that a person gains through such activities can stimulate them to create ideas in their head and as a consequence to imagine:

“To have imagination you’ve got to have that experience first and you get that experience through reading a book - because you can develop that experience through what you read - and sometimes through watching television or a film. So it doesn’t have to be concrete experience. We develop imagination from reading or talking to other people and things like that.” (Teacher 1)

In the above quotation, the teacher was suggesting that reading, watching a film or even exchanging ideas and opinions with other people, has an effect on what people are able to imagine. The experience that people gain through the activities mentioned above is associated with the vocabulary that a person has and with which a person articulates his

imagination. It seems that for the teachers the use of words and the acquisition of a broad vocabulary can actually affect the level of imagination and how people perceive it:

“I think that children find it hard to imagine anything that they have no experience of and quite often the vocabulary that we use automatically when we are trying to do something creative or imaginative with them you suddenly find yourself very surprised that they don’t understand what you are talking about.”
(Teacher 7)

Although imagination is connected with previous experience that a person has, it is not described as a mere recounting of people’s experience but is about putting these ideas and experiences in a new, creative groove. Teachers describe imagination as something which is based on experience but it has to be put in a different context. Therefore, it can be concluded that, according to teachers, imagination is about using the experience that one already has, in such a way that new ideas and images can be formed in the mind.

In the definitions of imagination given by teachers, imagination was placed out of reality. Although imagination was described as something which is based on experience and facts at the same time it was defined as something that requires the person to move away from the real world in order to develop ideas and images. This is illustrated by the definition given by one of the teachers:

“Imagination is something that is not real. So, it is sort of coming away from reality and that is very difficult I think for children. So, it is putting yourself in a position that you have never been before.” (Teacher 5)

This teacher described imagination as a process of moving away from reality and putting oneself in an outside position. The same perception of imagination was held by other teachers (three out of seven) commenting on the fact that imagination is about moving

away from yourself in reality and putting yourself in a world that exists only in the person's mind. As one teacher stated:

“Imagination is a higher skill because you are asking a child to put themselves in an outside position, if you like and looking in at that situation....” (Teacher 3)

In other words, imagination here is described as a cognitive process in which the person creates in their mind a situation in which they are acting like an external observer. This definition of imagination is very vivid.

6.1.1.2 Discussion of teachers' definition of imagination

An attempt was made above to present the definitions of imagination given by teachers. As was discussed before, when presenting teachers' definitions, it was very difficult for them to come up with a definition or even a description of imagination. That can be attributed to the fact that they did not claim to have read any literature about imagination or creativity and they attempted to explain imagination through their teaching experience. Moreover, in the teachers' answers it was observed that although the question regarding the definition of imagination was generally referring to imagination as a concept, all the teachers were making reference to children's imagination in their answers. As a result of the above, imagination was defined taking into account children's expression of imagination, a fact that limited their definitions at a practical level. The teachers provided a lot of examples about imagination but without taking it a step forward. On the other hand, their definitions of imagination gave evidence that they actually think of imagination as an important factor in teaching and that they have a lot of ideas as to how it can be promoted and how children experience it. It would appear that all teachers

interviewed had an idea in their mind of what imagination is but it was extremely difficult for them to put it into words.

6.1.1.3 Deaf children's imagination

The imagination of deaf children is an issue for discussion among the teachers of the deaf. All the teachers involved in the research (seven out of seven) mentioned the factor of language when asked to comment on deaf children's imagination. According to the teachers, imagination is based on someone's vocabulary and language. They particularly stressed the fact that deaf children are restricted linguistically and as a consequence their imagination would be limited. This view that teachers of the deaf hold is illustrated by the following words from Teacher 6:

"I think because their world is restricted linguistically they find it harder to imagine and they are more likely to be very factual and very literal."

Similar to the above view, according to Teacher 2, language is the channel. Therefore, deaf children have fewer ideas and less access to them as they have less they can draw on. One teacher made a connection of imagination not only with language but also with the Theory of Mind. She believed that deaf children have disrupted theory of mind and as a result they lack imagination and in particular linguistic imagination. They all seem to agree that when it comes to higher skills deaf children are definitely struggling. As Teacher 5 explained:

"It is a higher skill in terms of writing when you are actually looking at the feelings of the characters and showing the reactions of the characters and that kind of thing because their social skills and their language is underdeveloped and its all linked together they don't see things from another point of view and being able to do that is a kind of precursor of imaginative writing."

Apart from linking imagination with language and thought processes the teachers of the deaf did not rush into judging deaf children's imagination. They all believed that imagination depends on the stimuli that children receive as they grow up. They supported the fact that the more the parents read to children, the more they communicate effectively with them, the more children expand their imagination and the more expressive they become. As Teacher 7 highlighted:

"I think imagination depends very much on the experiences that children have had at home because I don't think you can generalize. I think that we have profoundly deaf children who have a very good imagination because they have been brought up with stories and lots of different kinds of experiences. I think that when they are born, they all got the same capacity for imagination and it's all to do with the language and experiences that they have."

Based on the view presented above, some teachers believed that imagination is definitely related to exposure to different experiences and is not strictly linked to hearing loss. On the other hand, the majority of the teachers taking part in the research (five out of seven) considered that deaf children's ideas are quite concrete, not abstract, and as a result they are less imaginative than hearing children. As Teacher 1 commented:

"I think our children are less imaginative because if they imagined something they would either base it on something that they'd seen in a story book that we'd read together or something they'd seen on television."

Very close to this observation lie the responses of the other teachers who considered that deaf children's ideas are totally based on their experience and therefore they are not able to take a step further and come up with very imaginative and original ideas. When asked to compare deaf children's imagination with hearing children's they all seemed to agree that deaf children struggle to imagine. This idea is highlighted by Teacher 6's observations:

“It would appear that deaf children’s imagination is different from that of hearing children from the stories I’ve read and they don’t seem to have as much imagination”.

Based on teachers’ interviews deaf children have less imagination than hearing children, for a variety of factors.

In conclusion, the scores obtained by deaf children in the stories contradicted teachers’ beliefs. Based on the statistics presented above, there is no great variation between deaf and hearing children (in two out of three stories). As is also mentioned above the highest scores were obtained by a deaf child. Some deaf children produced quite imaginative stories which were comparable to hearing children. Teachers’ opinions of deaf children’s imaginative skills appeared to be quite low and they did not seem to believe that deaf children actually have imagination. Having explored the overall achievement of deaf children in imaginative writing, it is important to discuss their performance in the main and additional divisions of the “Imagination Story Scale”.

6.1.2 The divisions of the “Imagination Story Scale”

This sub-section discusses the scores obtained by deaf and hearing children with the aim of comparing their performance on each of the main divisions of the scale: story structure, story plot, linguistic imagination and originality and in the additional division: overall imagination. In addition to the overall scores presented above, it is crucial to have an insight into the scores obtained by both hearing and deaf children in each of the divisions of the imagination scale. The mean scores for both deaf and hearing children in each division of the scale are shown in Table 15.

Table 15: Scale division scores

Measure	Deaf or Hearing	Mean
Story structure	deaf	1.58
	hearing	1.71
Story plot	deaf	1.68
	hearing	1.85
Linguistic imagination	deaf	1.36
	hearing	1.29
Originality	deaf	1.68
	hearing	1.75
Overall	deaf	2.17
	hearing	2.37

Based on the mean score it seems that neither group obtained very high scores in any of the divisions of the scale. It has to be acknowledged that the differences in the mean scores derived from a categorical scale like this one are quite small and no safe conclusions can be made. The Mann-Whitney U non- parametric Test was used to explore the variation between the two groups in each division of the scale. For story structure (story 1: $p = .31$, story 2 : $p = .23$, story 3: $p = .08$) there was no significant difference in scores between the two groups in all three stories although the difference in the third was close to significance.

Overall, considering the above results from a critical and more ‘qualitative’ perspective some deaf children do exhibit imagination which can be comparable to hearing children’s. In order to illustrate the fact that is it exceptionally difficult to draw safe conclusions an example of a deaf and a hearing child’s writing is presented in Figures 4a-b.

Figure 4a: Part of a story produced by a deaf child

looked up at the mirror, Suddenly he let out a
Huge ~~SCREEK~~ ~~SCREEK~~! he had turned into a Fish! *
suddenly he found that he was underwater! he swam
around looking, then suddenly, a Big ball of light showed
up and it said "to get everything back to normal, you have
to get to the edge of the ocean and find the mirror,
look at it and you're all back to normal!" then disappeared
Dominic thought, but how do I get there? he went left
and carried on going then he arrived at a big forest

Figure 4b: Part of a story produced by a hearing child

One morning I got up as usual but I tripped and as I ~~landed~~
landed on my belly I slowly sunk through the floor. I was
astounded. When I got through to the living room (which was
under my bedroom) I did a bit of breaststroke legs, I shot forward
with amazing speed. I did some treading water in this case treading
air and I turned so I was standing up. I thought about what
I'd just done. I decided to test it so I thought about turning into
a lion, instantly I had a big shaggy mane and I turned over so I was
~~standing~~ floating on my four feet now. But I couldn't ~~str~~ fly now

By looking at the two extracts from the stories produced by a deaf and a hearing child it is suggested that there was evidence of high achievement in the story plot, in the story structure and originality. It is important to mention that in both stories some spelling

mistakes and some mistakes in the syntax of the sentences were observed. However, lots of ideas appeared in both stories and they were both considered exciting and imaginative.

In summary, there was no great variation in the mean scores obtained between hearing and deaf children on the individual components of imagination as these are presented in the “Imagination Story Scale”. It was found that deaf children elaborated their stories in as great a depth as hearing children did. Overall, it was found that there were some hearing children who were unable to write very imaginative stories and who faced similar difficulties to deaf children. Moreover, there was a difference in the performance of both groups for different stories. This can be explained by the different topic of each story. The first and second story provided more stimuli to the children to produce an imaginative story whereas story three although it was more straightforward did not succeed in stimulating children’s imagination and that was why more descriptive stories were produced. In an attempt to elucidate deaf children’s imaginative writing and the possible factors that might affect their performance, deaf children’s background characteristics are examined in the next section.

6.2 Deaf Children’s Characteristics and the Impact of these on Imaginative Writing

The aim of this section is to give answers to the research question regarding the possible factors that affect deaf children’s imaginative writing. The factors examined here are: gender, age of deaf children, age of diagnosis, degree of hearing loss, type of amplification, communication used in home and writing at home. . Information on these factors was given by children’s parents. For the association of the factors affecting deaf

children's imagination with the performance in imaginative writing, the overall score obtained for the three stories is used. Regression analyses were carried out to determine whether any of these variables was a significant predictor of deaf children's scores in imaginative writing. These showed that overall scores in imagination were not predicted by age, gender, age of diagnosis, degree of hearing loss, type of amplification, type of communication and writing at home (The p value was not less than or equal to .05).

It is important to acknowledge that the scores in imagination are derived from a categorical scale and as a result safe conclusions can not be made of the difference in the mean scores between the groups are significant or not. Therefore, the above factors are presented separately here using only descriptive statistics.

Teachers' perceptions concerning the factors that might affect deaf children's imagination are used to illustrate the quantitative data analysis and to give more details on deaf children's imaginative writing.

6.2.1 Gender

Does gender affect imagination? Although there is no known research on deaf children reporting the impact of gender on imagination, some studies of hearing children found that in general females perform better than males across a number of language skills (Garton and Pratt, 1998). Bearing that in mind it is important to explore if there is any difference between boys and girls in performance on imaginative stories.

In the present study there were a balanced number of male (15) and female (15) deaf children. This study found that boys and girls scored the same overall as Table 16 shows.

Table 16: Imagination score of deaf boys and girls

Overall score of the imagination scale	
Gender	Mean
male	1.71
female	1.68

The mean score obtained by boys and girls as is presented at the above table was almost the same. The performance of the two groups in each of the three stories is exhibited below in Table 17:

Table 17: Score for deaf boys and girls in each of the three stories

	Gender	Mean	Std. Deviation	N
Story 1	male	1.71	1.05	15
	female	1.81	.57	15
	Total	1.76	.83	30
Story 2	male	1.80	1.05	15
	female	1.85	.84	15
	Total	1.82	.94	30
Story 3	male	1.61	.79	15
	female	1.37	.44	15
	Total	1.49	.64	30

As the scores reveal, the two groups performed the same in the first and the second story whereas girls scored slightly lower in the third. Again, the results are based on the categorical “Imagination Story Scale “and cannot draw any conclusions on how significant the above differences between the groups are.

6.2.2 Age

In this study the sample consisted of deaf children 9-11 years. The children were almost equally dispersed into the three age groups (9, 10 and 11). The exact number of children of each age group is presented in Table 18.

Table 18: Number of children in each age group

		N
age	9	9
	10	11
	11	10
	Total	30

Do younger children perform better than older children or vice versa? As is presented in Table 19, children who were 9 years old or 10 years old performed almost the same in the stories whereas children 11 years old performed slightly better.

Table 19: Imagination score of children of the three age groups in all three stories

age	Mean	Std. Error
9	1.68	.24
10	1.61	.22
11	1.79	.23

The performance of children in the three age groups in the three stories separately is reflected in Table 20.

Table 20: Overall score of children of the three age groups in each story

Stories	age	Mean	Std. Deviation	N
Story 1	9	1.59	.97	9
	10	1.78	.94	11
	11	1.90	.61	10
	Total	1.76	.83	30
Story 2	9	1.99	.85	9
	10	1.52	1.12	11
	11	2.00	.80	10
	Total	1.82	.94	30
Story 3	9	1.46	.58	9
	10	1.53	.90	11
	11	1.48	.35	10
	Total	1.49	.64	30

As is shown in the table above older children performed better in the first and second stories but slightly lower in the third story.

6.2.3 Degree of hearing loss

In the exploration of imaginative writing of deaf children one important factor that has to be considered is the degree of hearing loss. As explained in Chapter 1, deaf people can be classified according to the degree of the hearing loss as moderately, severely or profoundly deaf. In this study there were six (6) moderately deaf children, three (3) severely and nineteen (19) profoundly deaf. The total number of deaf children presented here is twenty-eight (28), as there was no information given by the parents of two

children. Descriptive statistics (Table 21) provide an overview of the performance of these three groups in the three stories.

Table 21: Score of children according to the degree of hearing loss

Stories	degree of hearing loss	Mean	Std. Deviation	N
Story 1	moderate	1.21	.71	6
	severely	2.21	.72	3
	profoundly	1.77	.66	19
	Total	1.70	.71	28
Story 2	moderate	1.46	.72	6
	severely	2.03	.96	3
	profoundly	1.83	.90	19
	Total	1.77	.86	28
Story 3	moderate	1.30	.44	6
	severely	1.46	.35	3
	profoundly	1.45	.60	19
	Total	1.42	.53	28

The table above shows that in all three stories severely deaf children scored higher than those with moderate or profound hearing loss although the difference was very small in the third story. In all three stories moderately deaf children received the lowest scores. However, no safe conclusions can be deduced as the numbers of the three groups of children were not equal and the size of the sample was small. The results could have been and were probably influenced by one very good pupil or one very poor in the group of moderate hearing loss (only three children).

As it was said above due to the unequal number of children in each category no safe conclusions can be made. However, it is suggested that not all children who have a significant degree of deafness fail to display imagination, despite what has previously been suggested.

The above results are in contrast with teachers' perceptions. The majority of the teachers involved in the research (five out of seven) thought that the degree of hearing loss is directly connected to imagination. The explanation is that the degree of hearing loss has an impact on language acquisition and because imagination is based on language, as a consequence the degree of hearing loss does affect imagination. As Teacher 2 commented:

“Well the bigger hearing loss you have the more it is going to impact on your imagination because it will impact upon your language acquisition. The bigger your hearing loss the more that area is affected.”

Teachers made a distinction between the imagination of children with moderate hearing loss and by children with profound hearing loss. Due to the fact that they base imagination on experience, teachers suggested that children with profound hearing loss might lack imagination as they do not access speech [sounds] very well and they are at a disadvantage linguistically compared to moderately deaf children. This point that is made by most of the teachers is illustrated by Teacher 3's words:

“A child with moderate hearing loss has much more access to the hearing world which means that they have much more access to language, to stories, to reading. So the hearing loss is, I think quite a large factor affecting imagination.”

However, there are other teachers who believe that imagination does not depend on hearing loss but is probably more linked to intelligence. One of the teachers stated that intelligence can help people to make better use of a smaller amount of hearing; they can make better sense of spoken language even if they are only getting a limited amount. Nevertheless they all seem to agree that imagination of deaf children is not only affected by the degree of hearing loss but by a number of factors such as school setting and type of communication used at home.

6.2.4 Home choice of communication

In the present study, most of the children (17) were using a single mode of communication at home (speech only) and eleven (11) a combination of signing and speech. Therefore, most of them were using the same type of communication as their family. All the parents were hearing except for one child whose father was deaf. Descriptive statistics (Table 22) demonstrate the mean scores obtained by the children who use oral communication and the children who use total communication at home.

Table 22: Overall score according to the type of communication used at home

Communication used at home	stories	Mean	Std. Error
Speech	1	1.78	.17
	2	2.00	.20
	3	1.51	.13
Signs and speech	1	1.57	.21
	2	1.43	.25
	3	1.29	.16

The table above shows that overall, children who were using oral communication at home scored higher in all three stories compared to the children using both speech and signs.

Children who were using oral communication scored higher all three stories. However, the differences between the mean scores are quite small and no safe conclusions can be made.

The results of this study were in accordance with the views of some of the teachers who believed that imagination does not depend on the type of communication used at home or in school but on the fact that any type of communication used has to meet the child's needs and it depends on the child. As Teacher 4 commented:

“Home type of communication affects imagination but again it depends on the child. I mean one particular child that we are working with she has learnt everything sort of parrot fashion and this is her parents’ strategy for coping with her deafness. She is not very imaginative because they’ve worried too much about structuring things for her.”

Among the teachers there were different views regarding the effect that home type of communication has on imagination. There were two different perceptions held by teachers. Firstly, there were teachers (three out of seven) who believed that children who use sign language have an advantage and that their imagination is richer, but only in BSL. Thus, they believed that sign language gave the children help with their imagination and creativity but they thought that they could not express the ideas they have in written words. This opinion was illustrated by Teacher 7's comment:

“I think the children who have BSL as their first language are very imaginative in their own language. It is very difficult to translate into English but if you have watched them telling a story – they’ve got imagination.”

On the other hand, there were teachers (two out of seven) who believed that children who are using spoken language have a capacity to read better, and to communicate with other people. As a result, they believed, children who use oral communication develop higher imagination and they perform better on imaginative writing. A teacher who perceived that deaf children who use spoken language have an advantage in imagination commented:

“If you are orally communicating with somebody then they are going to be hearing all that language and the language of imagination. And as a result you can write imaginatively.” (Teacher 1)

To sum up, perceptions can differ and deaf children’s imagination cannot be judged merely upon the home type of communication. After all, as was presented in the quantitative analysis, home type of communication on its own does not affect imaginative writing.

6.2.5 Type of amplification

Of the children involved in this study fourteen have undergone cochlear implant surgery and fifteen use other types of amplification. There was no information on the type of amplification used by the children who did not have a cochlear implant, since this information was not requested. The total number of children was twenty-nine as there was no information received from one child’s parents. Descriptive statistics (Table 23) demonstrate the mean scores received in the three stories by children with and without cochlear implants.

Table 23: Overall score according to the type of amplification

Stories	cochlear implant	Mean	Std. Deviation	N
Story 1	yes	1.92	.81	14
	no	1.66	.87	15
	Total	1.78	.84	29
Story 2	yes	2.03	1.06	14
	no	1.69	.82	15
	Total	1.85	.94	29
Story 3	yes	1.76	.74	14
	no	1.24	.45	15
	Total	1.49	.65	29

The table shown above demonstrates that children with cochlear implants scored slightly higher in all three stories compared to children without. However, the difference between the scores is not very big. The figure above shows that overall, children with cochlear implants performed better in the three stories compared to children without cochlear implants. Therefore, it is concluded that although children with cochlear implants gained slightly higher scores than children who use other types of amplification, the variation between those two groups was not significant.

At this point it is important to make a connection with the results obtained from the previous subsection regarding the degree of hearing loss. It was mentioned before that although it turned out that there was not any significant variation in the scores obtained by children with different degree of hearing loss, profoundly deaf children received the highest scores in the three stories. This might be associated with the fact that the

majority (twelve out of nineteen) of these children had cochlear implants. As has already been noted in 2.4.2. cochlear implants give good access to speech sounds and may be associated with better levels of literacy, but this was not investigated further.

6.2.6 Writing at home

One very important factor that needs to be considered when exploring imaginative writing of deaf children is the encouragement they get from their parents at home. Information was collected from parents on whether they encourage their children to write imaginative stories at home or whether they encourage them to use their imagination in any other activities. For this question there were 25 responses out of 30. From this sample fourteen parents replied that they encourage imaginative writing at home and eleven replied that they do not. Descriptive statistics (Table 24) demonstrate the mean scores obtained by children who are encouraged by their parents to get engaged in creative activities at home and by children who are not encouraged to do so.

Table 24: Overall score according to the encouragement that is given from parents at home

Stories	Do you encourage imaginative writing at home?	Mean	Std. Deviation	N
Story 1	yes	1.84	.77	14
	no	1.54	.64	11
	Total	1.71	.72	25
Story 2	yes	1.89	.91	14
	no	1.57	.85	11
	Total	1.75	.88	25
Story 3	yes	1.42	.57	14
	no	1.39	.53	11
	Total	1.41	.54	25

The table showed that overall in the three stories children who were encouraged by their parents at home to engage in imaginative writing or where parents encouraged them to get involved in activities in which they use their imagination, scored slightly higher in the first two stories whereas there was almost no difference in their scores in the third story. Again, based on the mean scores derived from a categorical scale is very difficult to make safe conclusions on how important the above differences are.

Although there might be other factors that affect deaf children's imaginative writing, in the present research only the above factors were assessed and compared to the imagination score. One other factor explored through teachers' interviews but not related to individual scores was the use of activities to promote imagination in the classroom.

6.3 Activities in the classroom that promote imagination

To explore the factors that could possibly affect deaf children's imaginative writing, the teachers were asked whether they used activities to promote imagination in the classroom and in what ways. All teachers replied positively to this question mentioning that writing is one path to literacy and part of the curriculum. They all mentioned different activities used in the creative writing hour. The central tenet of these activities was book reading and discussion around the story in the book.

In response to this specific question they all commented on the fact that they have never asked the children to do what they were asked to do for this study. None of the teachers said that they had ever given deaf children a topic and asked them to write a story from their imagination without any help. They all seemed to agree on the fact that deaf children have low self-esteem and as a result they cannot perform as independent writers.

As Teacher 6 commented:

“They don't actually sit down and write creatively and you would have found that. And I think they are used to getting things wrong all the time and saying things wrongly and they like to be right: they like fact.”

Teachers claimed that it is essential to provide a lot of stimulus to deaf children otherwise they find it really hard to write imaginatively. This was illustrated by Teacher 3's comment:

“I feel that they need some sort of structure because just asking them to write a story cold is too difficult but if they know that it's another adventure for this little boy and they know we have to write it in the style of the story that we've looked at that gives them the confidence because a lot of them really have low confidence with their abilities.”

Teachers used activities such as “role play” which was based on what happened in a story and tended to be quite descriptive. Thus, the activities used in order to stimulate deaf children’s imagination were merely verbal and visual. As Teacher 7 commented:

“We do a lot of role play so we would act a lot of things out first before actually putting anything down on paper. We would do a lot of talking about feelings and how you would feel in certain situations. So we do a lot of work on acting out characters and on stimulating imagination but we don’t always write.”

The importance of “building up” was stressed by all teachers. Great emphasis was placed on putting in the building blocks to help deaf children acquire the vocabulary they need in order to write imaginatively. The strategy that was followed by all teachers is that they read stories to children, and then they had discussion based on the story. All the children together tried to think of a different beginning, different title or different end to the story and then they might ask the children to write a similar story. Thus, writing was the last activity that comes after all this preparation is done and after all the vocabulary is given to the children. According to the teachers deaf children need to have structure otherwise it is very difficult for them to perform. According to Teacher 4’s commented:

“So we rarely say: here’s the title – write! What we tend to do is we have two weeks of building up to an extended piece of writing whether it’s fiction or non-fiction and we have lots of modelling of things and maybe doing chunks of writing and if you were doing a story starter you would think of lots of vocabulary; lots of interesting words before you actually attempt the story.”

In conclusion, although teachers stated that a lot of work to promote deaf children’s imagination is done in the classroom, based on their descriptions of the activities that they do around imaginative writing in the classroom it is speculated that everything is highly structured and children may not get enough opportunities to express themselves

and explore their imagination. The evidence suggests that the Teachers of Deaf had very low expectations and as a result they tried to “feed” children as much information as possible without giving them the chance to express their own ideas even without using correct language. Teachers worry about language and about vocabulary and less importance is given to children’s ideas.

Despite the fact that all the teachers interviewed (seven out of seven) pointed out that asking deaf children to write without any stimuli is too difficult for them the results of the present study suggest (as shown in Section 6.1) that there was no significant variation between deaf and hearing children’s performance on imaginative writing. Teachers also suggested that imaginative writing is linked to language skills. The exploration of the connection between imaginative writing (writing as process) and writing skills (conventions of written language) is the focus of the next section.

6.4 Imaginative Writing and Writing as Product

It was seen in 2.4.2 that various authors suggest that deaf children face difficulties in the conventions of written language and that they tend to produce shorter and simpler sentences in which there are more verbs, nouns or adjectives and fewer prepositions, articles and conjunctions (Webster 1986) . This section aims to answer the question: “Is there any connection between deaf children’s imaginative writing and writing as product?” In other words: “Are the deaf children who face difficulties in structure, syntax and grammar (writing as product) the same ones who produce less imaginative stories?” The correlation between imaginative writing and writing as product was

explored here only for deaf children. The hearing children included in this sample were matched for their academic performance with deaf children and they were expected (by their teachers) not to face any difficulties in the conventional forms of written language.

The answer to the above questions can be given by comparing the scores obtained from the “Imagination Story Scale” with the scores obtained by a scale assessing writing as product. In this section, teachers’ comments on the issues of writing as product and imagination are used to illustrate the results gained by the quantitative analysis.

A validated analytic instrument that assesses deaf children’s writing, developed by Burman et al. (2008) was used to evaluate the deaf children’s stories (Appendix 5). In order to investigate this comparison only the first of the deaf children’s stories was used. The scale has high inter-rater reliability and test-retest correlation. It consists of 17 items related to aspects of grammar and story development. The scores in the scale vary from “0” if there is no evidence of the syntactic construction to “4” if the text shows correct use of the criterion. The first item of scale refers to the systematic use of spaces between groups of alphabetic letters. If the child does not separate words using spaces then the story cannot be scored by this scale. For this reason, the first item does not count and only 16 items are used to obtain the overall score of the story (Burman et al., 2008). The minimum possible score is 0 and the maximum 64 (16 items multiplied by the maximum score of “4” on each item). The minimum and maximum score, the mean and the standard deviation are presented in Table 25.

**Table 25: Descriptive statistics for deaf children's
writing assessment**

	N	Minimum	Maximum	Mean	Std. Deviation
Writing as product	29	10	63	40.10	14.19

As shown in the table above, the number of stories assessed using the scale was 29 out of a possible 30. The reason is that one of the stories could not be assessed as this was indicated by item 1 of the scale (the child did not leave spaces between the groups of letters). The minimum score was 10 and the maximum 63 with a mean of 40.1. Comparing these results with the scores obtained by Burman et al. (2008) where the performance varied from 2 to 59 it can be concluded that the deaf children in this sample performed better. This can possibly be explained by taking into account the fact that the sample of this study consisted of deaf children in mainstream schools and units for the deaf, children who had hearing parents whereas in Burman's study the sample consisted of deaf children both in special and mainstream schools.

In order to investigate if there was any correlation between the scores from the "Imagination Story Scale" and the performance of children in writing as product, Pearson's correlation coefficient was used. The results are presented in Table 26 below:

Table 26: Correlation between Imagination score and Writing as product

	Imagination score	Writing as product
Imagination Score	1	.40*
Writing as product	.40*	1

*. Correlation is significant at the 0.05 level (2-tailed)

The table above shows that the correlation between the two scores is significant although according to Pallant (2005) the strength of the relationship $r = .40$ is medium ($r = .30$ to $r = .49$: medium). It is suggested that there is a relationship between imaginative writing and writing as product but this relationship might not be very strong. In order to have a better picture of the relationship between deaf children's performance in imaginative writing and their performance in writing as product the two scores for each child are presented in Table 27:

Table 27: Deaf children's imagination and writing assessment scores

Child	Imagination score	Writing assessment score
1	1.5	39
2	1.5	31
3	2	40
4	3	51
5	1.9	60
6	3.4	33
7	2.5	28
8	2	43
9	.2	19
10	.7	
11	1.8	60
12	4.2	43
13	.8	10
14	1.3	56
15	2.1	51
16	1.1	48
17	1.7	56
18	1	30
19	2.1	63
20	2	38
21	2.1	9
22	2.2	58
23	2.4	48
24	1	29
25	1	28
26	2.4	46
27	1.8	37
28	1.3	22
29	1.1	17
30	1.1	39

The table above allowed some very important observations to be made. First of all, it is observed that for some children there is a close link between the imagination score and the score in the writing assessment. For example child 10 who gained a very low imagination score (.7) did not manage to get a score in the writing assessment as his story could not be scored according to the guidelines of the assessment as explained above. On the other hand, for some children the correlation between the two scores appeared not to be so high. For example child 19 gained the highest score (63) in the writing assessment and a good score (2.1) in imaginative writing but not the highest. Nevertheless, child 12 who exhibited the best performance in the “Imagination Story Scale” (4.2) did not manage to get the highest score in the writing assessment. The above observations indicated that there is obviously a relationship between the two types of writing but in some cases this relationship is not very strong. As a result, it cannot be claimed that there is a causal relationship between the two variables.

The results given by the quantitative analysis above were supported to a point by the teachers’ interviews. All teachers interviewed (seven out of seven) agreed on the fact that the performance of children in writing as product can influence the way imaginative ideas are presented on paper, but on the other hand once the ideas are there then grammar and structure can be improved. Although they all agreed on the influence that knowledge of grammar and structure might have on their imaginative writing, their opinions varied on the degree of that influence.

According to some of the teachers deaf children find a block if they are creative but cannot write as they cannot pass the ideas to others. As Teacher 4 commented:

“If you got some of the ideas then you can maybe work on the structure a bit afterwards but if the grammar and the structure isn’t there then you can’t really understand what they are trying to get across.”

This teacher stressed the importance of grammar and structure for the expression of imaginative writing. She believed that these two are linked and one can influence the other. In other words, everything is linked and grammar and structure have an effect on how well the ideas are presented and expressed. Teacher 3 said:

“The higher level the children have of writing then the better imaginative stories will be.”

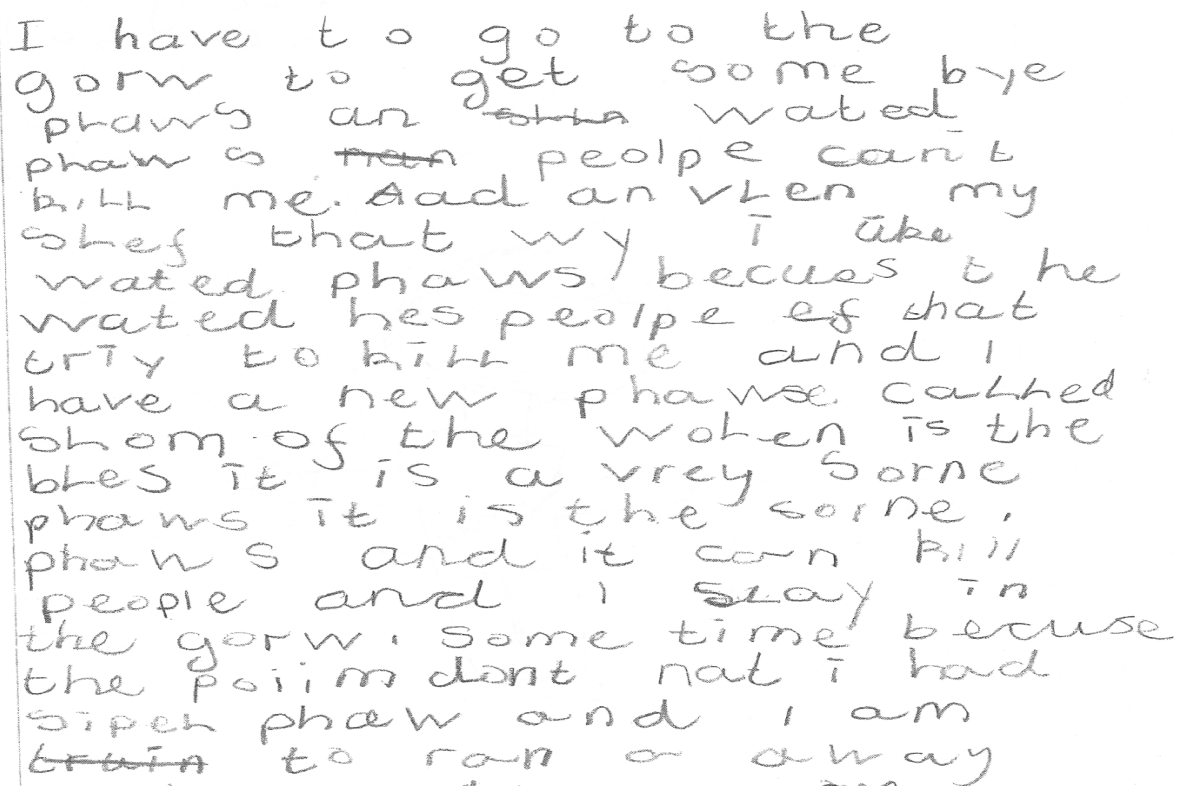
From the above statement it is clear that she thinks that the better writing skills the children have the better stories they produce. Teacher 1 shares the same view:

“Deaf children might have the ideas but they won’t write very much because they just haven’t got the grammatical writing structures needed”.

Interpreting the above statement it is obvious that teachers’ opinions of the imaginative writing of deaf children are more influenced by the grammar, spelling and structure of a piece of writing than by the ideas presented. Despite the ideas the deaf children have, when they are unable to express them in a written form that can be understood by others then the ideas do not get progressed or developed.

To illustrate the point made above an extract from one child's story (child 21) is presented here. Due to the fact that the child's writing is illegible she was asked to read back her story twice. The story re-written is also presented below:

Figure 5: Part of a story produced by a deaf child

A photograph of a piece of paper with handwritten text in cursive. The text is written in dark ink on a light-colored background. The handwriting is somewhat messy and difficult to read, with many misspellings and some words that are hard to decipher. The text appears to be a story or a narrative. The words are written in a way that suggests the child is trying to express their thoughts but is struggling with spelling and grammar. The text is written in a single paragraph and covers most of the page. The handwriting is slanted and the letters are often connected, making it challenging to read. The overall impression is one of a child's raw, unpolished writing.

I have to go to the
gorw to get some bye
phaws an ~~shwa~~ wated
phaw s ~~nan~~ people can't
kill me. And an vlen my
shes that wy I like
wated phaws becues the
wated hes peolpe ef that
erty to kill me and I
have a new phawse called
shom of the wohen is the
bles it is a vrey some
phaws it is the some,
phaw s and it can kill
people and I stay in
the gorw. some time becuse
the poiim dont nat i had
sipeh phaw and i am
~~brain~~ to ran a away

I have to go to the jungle to get some more powers and any water powers and people can't kill me. And avoid my stormy that's why I like water powers because the water protects me from that try to kill me and I have a new power called stormy of the wind is the best. It is a very strong power and can kill people and I stay in the jungle some time because policemen don't know I have special powers and I am to run away.

The above extract from the story illustrates that although some words are illegible and there is incorrect use of spelling and grammar, the story is really imaginative. It includes some very original ideas and quite a good plot. However, it scored very low on the writing assessment.

The opinions presented above are not shared by all teachers. As Teacher 2 stated:

“You are looking more at ideas and concepts rather than how it is written. You are looking more at what you are writing rather than the way in which it is written: the concepts rather than the grammar.”

Teacher 6 took this forward by adding that:

“The fact that they can write grammatically isn’t going to necessarily mean that they’ve got good imaginative writing. If you are looking for creativity then grammar doesn’t matter”.

For imaginative writing, children need to have a degree of writing ability but what is more important is the ideas they have.

To sum up, all the teachers interviewed seemed to agree on the fact that writing ability does influence imaginative writing. Their opinions varied on how strong that influence is and under which circumstances it applies. For some teachers writing skills have a dramatic effect on imaginative writing and on the ways that the ideas are passed on to others. On the other hand, there were teachers who supported the view that ideas and concepts are more important than grammar and spelling, although children need to have a certain level of writing skills in order to be able to write fluently and imaginatively.

6.5 Conclusion

The focus of this chapter was to explore the imaginative writing of deaf children by comparing their stories to those of hearing children and by looking for possible factors that might affect their use of imagination. In order to encompass a broad understanding of imagination, teachers' answers on this theme were analyzed. According to the teachers of the deaf, imagination is based on previous experience but at the same time is detached from reality. They defined imagination as a combination of concepts and ideas that one already has but in a new, creative way. All teachers seemed to base their definitions of imagination on the activities that take place in the classroom and on the way that children exhibit imagination. Despite the fact that teachers struggled to give a definition of imagination and that they admitted to not having thought of these concept before, when asked to comment on deaf children's imagination their opinions were very clear.

According to these Teachers of the Deaf, deaf children lack imagination compared to hearing children. Regarding the impairment of deaf children's imagination, teachers observed a connection between their imagination and language whereas this connection was not mentioned before when asked about the meaning of imagination. Despite teachers' ideas about deaf children's imagination, the scores obtained by deaf children in the "Imagination Story Scale" were indicative that some had high abilities in imaginative writing and they were also comparable to hearing children's stories. Although hearing children obtained slightly higher scores than deaf children, no safe conclusions on the significance of this difference can be made. More specifically, although the scores obtained by hearing and deaf children varied across the different divisions of the

“Imagination Story Scale”, no overall significant variation in scores was observed between deaf and hearing children. This chapter also explored the background characteristics of deaf children and the possible relationship of these characteristics with their performance in the scale. Again, it appeared there was no significant effect of these characteristics on deaf children’s performance in imaginative writing. What made a difference in the performance of both groups was the topic of the stories. It was demonstrated that their scores varied across the different stories.

Writing in the classroom in connection to the activities used to promote imagination was discussed in this chapter. Despite the fact that all the teachers said that they promoted imagination in the classroom through the use of different activities, most of them were not actually doing any free writing with the children. They said they were doing role play with them, reading books and engaging in various exercises promoting imagination such as, asking the student to change the beginning, middle or end of the story. The children were not given the opportunity to write on their own and express their ideas on paper. A lot of attention and consideration was given to grammar and spelling and teachers fed the child a great deal of information before they would actually let them write. This could be related to the low expectations that the teachers had for the deaf children. It could be argued that in giving so much information before allowing the deaf children to write, the teachers were limiting deaf children’s opportunities to demonstrate their imagination.

In the last section of this chapter a comparison was made between imaginative writing and writing as product. The first story obtained from all the deaf children was evaluated for writing (using a writing assessment scale) and for imagination (using the “Imagination Story Scale” that was presented in Chapter 4). Again, there was no strong correlation found between writing skills and imagination. Thus, highly imaginative stories have received low scores in the writing assessment and vice versa.

To sum up, the aim of this chapter was to give answers to the research questions posed in Chapter 1 regarding imaginative writing of deaf and hearing children, the possible effect that background characteristics of deaf children might have upon their imaginative writing and the connection between writing skills and imagination. In this chapter the results were presented without an in-depth explanation being given. The results presented in Chapter 4 (Case studies) and the results from this chapter are discussed in the next chapter.

CHAPTER SEVEN

DISCUSSION

7.1 Introduction

In the previous two chapters the data were analysed both qualitatively and quantitatively. The focus of this chapter is to discuss the results presented above and to compare the current findings with previous findings in the same field. The discussion is structured in the same way the results were presented above and attempts to give answers to the research questions by making speculations. The results obtained from the quantitative and qualitative analyses are discussed together in a way that complements each other.

The first section of this chapter discusses the imaginative writing of hearing and deaf children and addresses the research question: “Do deaf children exhibit imagination in their writing?” The performance of both hearing and deaf children and the possible reasons behind these are discussed followed by a discussion focusing solely on deaf children’s imaginative writing. Then, deaf children’s performance in imaginative writing is linked to the concepts held by their teachers on imagination and creativity and the connection between those two terms. A crucial part of the discussion is the findings obtained in teachers’ interviews which reveal important information about the development of deaf children’s imaginative writing.

The second section of this chapter focuses on the background characteristics of deaf children and their possible effect on imaginative writing. The impact of gender, age,

home communication approach, the use of cochlear implants and imaginative writing are discussed in this section. Speculations on the importance of these factors to imaginative writing are made.

The third section focuses on the connection between imaginative writing and writing as product. The results obtained from the comparison between the imaginative scores obtained from the “Imagination Story Scale” and from the writing assessment scale are discussed here.

The fourth section of this chapter focuses on the research question concerning the promotion of imagination in the classroom. The way that teachers promote creativity/imagination in the classroom and speculations on the outcome of the activities they used are discussed here.

In conclusion, this chapter brings together Chapters 5 and 6 in an attempt to discuss and interpret the results obtained.

7.2 Imaginative Writing of Hearing and Deaf Children

In order to gain an in-depth understanding of the imaginative writing of deaf children several parameters need to be discussed and different aspects need to be taken into account. The discussion in this section is grouped in three sub-sections: performance of deaf and hearing children in imaginative writing, teachers’ perspectives on imagination, and deaf children’s achievements in imaginative writing

7.2.1 Performance of deaf and hearing children in imaginative writing

The findings presented in Chapter 6 (Section 6.1) showed that by no means all deaf children in the cohort studied lack imagination compared to hearing children. Evidence suggested that some deaf children may be less imaginative than others (as happens with hearing children) but they are not and should not be considered as concrete and stereotypical in their thinking compared to hearing children. In the present study the performance of the deaf children in imaginative writing was comparable to hearing children and there was not a lot of variation in the scores between the two groups. As an example, the imagination scores obtained in the first story by deaf children and their hearing peers are presented below:

Table 28: Example of scores obtained by deaf and hearing children

Deaf	1.5	1.5	2	3	1.8	3.4
Hearing	2	1.7	3	.8	1.5	3.4

This one to one match provides support for the idea/hypothesis that overall there was little variation in performance in imaginative writing between deaf and hearing children. Despite the fact that a small variation between the scores of the two groups was found in the first story, with hearing children scoring higher than deaf children, nevertheless it can be claimed that overall these deaf children's stories were as imaginative as the hearing children's and in some cases highly imaginative. The present findings may be challenged

by other research studies in the field. As Paszkowska-Rogacz (1992) reports, in a study evaluating creative thinking abilities of deaf children; more stereotypical, less imaginative and less original products and drawing of concrete objects were produced by deaf children whereas in the hearing group there was greater use of abstractions.

The variation in the scores observed in the first story can be attributed to the fact that although the topic of the first story (“magic power”) was very stimulating, this proved to be a difficult term for deaf children to grasp. Although explanation was given, this topic still proved difficult for deaf children in terms of understanding its meaning. Although not systematically investigated there was evidence that children were concerned to write correct single sentences, particularly in relation to the first story. This is in accordance with Wilbur’s (1977) hypothesis that deaf students were receiving instruction that placed too much emphasis on producing correct single sentences. However, it was a deaf child who achieved the highest score among the two groups of children in all three stories (story 1: 4.3, story 2: 4, story 3: 3.5). Bringing the quantitative and the qualitative analysis together it was observed that it was the same child (Child D) whose stories included a lot of imaginative characteristics and stood out from the others.

The above data contrast with the expectations of the teachers as found in their interviews. Teachers of the Deaf interviewed in this study considered deaf children to be less imaginative and more literal in their thinking than hearing children. Making connections between imagination and linguistic skills, these Teachers of the Deaf underestimated the

creative and imaginative abilities of deaf children. Some examples of teachers' perceptions follow:

"I would say that they are not as imaginative, actually, as hearing children and I'm not sure of all the reasons for that" (Teacher 5)

"From my experience with them there is not as much imagination, there is not so much evidence of their imagination ..." (Teacher 6)

The lack of imagination of deaf children compared to hearing children as this was expressed by some teachers in the present study may be a view widely accepted by Teachers of the Deaf, a question that merits further investigation.

These findings on the perceptions of the teachers are in contrast with the findings obtained by analysis of the imaginative stories. However, it is speculated that teachers' views on the limited imagination of deaf children were related to their verbal abilities, based on the fact that the teachers linked imagination to language. No reference was made to deaf children's imagination when language is not involved. The contradiction between the results of the current study and teachers' perceptions is also an issue evident in the literature examining imagination in deaf individuals. It was seen in 2.4.3 that there was a general consensus among the studies exploring creativity using non-verbal measures that deaf children do have imagination and are able to express it whereas less agreement was observed in the studies using assessments involving language.

Another important finding of the research is that both deaf and hearing children obtained different scores in the three stories. This means that although hearing status proved not to be a significant factor affecting imaginative writing, the topic of the stories proved to be

an important factor since no other visual stimuli were given. It is possible that a topic like “magic power” may be more stimulating for children based on the fact that it can trigger their imagination and that children might draw on their previous experiences based on movies and fairy tales. On the other hand, the topic of the third story “Change into an animal for a day” in which both groups obtained the lowest scores appeared itself less stimulating and it led to more descriptive stories. This might explain the fact that children wrote quite descriptive stories with less adventure and less excitement for the reader. This does not mean that there were not some imaginative stories under this topic. Thus, it can be concluded that the kind of stimulus given can affect the imaginative expression of children.

Another important finding of the study is that there were also differences in the performance of the two groups in the various divisions of the scale. Although there was no significant variation in the overall scores between deaf and hearing children, the latter group obtained slightly higher scores than the former group with the exception of the division of linguistic imagination. Thus, it seems that deaf children came up with more imaginative names, new words and exciting dialogues. More specifically it was observed that deaf children used more dialogues in their stories; a factor that made their stories more imaginative.

To sum up, the findings of this research study concerning the performance of hearing and deaf children in imaginative writing contradicts the findings of some older studies mentioned in Chapter 2 (see 2.4.3) which supported the fact that deaf children lag behind

hearing children regarding linguistic expression of imagination. The comparison of these two groups in the present study indicated that these deaf children are as imaginative as the hearing children and in some cases even more imaginative. The small differences that were found among those two groups may be attributed to the different way that deaf children express their imagination in writing.

7.2.2 Teachers' perceptions of imagination and creativity

The findings of the present study revealed that these teachers had great difficulty in thinking of a definition of imagination and even expressing what imagination meant for them. They considered this question very difficult and very challenging. This probably means that the teachers have never thought what imagination is although they claimed to use imagination in teaching. The fact that no teacher claimed to have read literature about imagination can also indicate that they were not greatly concerned with the concept of imagination. The teachers' difficulty in explaining the concept of imagination can also be attributed to the vagueness of the term itself. This is also supported by literature presented in Chapter 2 (Section 2.2.1).

Teachers related imagination to a combination of ideas. Thus, imagination for the teachers was considered as a higher skill in which the process was taking part in the mind of the person. Thus teachers' perceptions are in agreement with the perception of imagination described in literature as the mind in flight, soaring on the wings of memory, emotion, association and perception (Egan, 1992). Following the difficulty that teachers had in describing imagination, the definitions they offered referred to practical teaching,

giving a lot of examples of the ways they promote imagination in the classroom and how children express it. Thus, it is speculated that teachers were able to recognise imagination when it is exhibited but they were unable to attribute meaning to it. It seems that it was difficult for these teachers to provide characteristics for an indistinct concept as they were not familiar with the literature on imagination. This difficulty described above was also reflected in the fact that no teacher attributed any characteristics to imagination. It is surprising that no teacher referred to crucial aspects of imagination such as originality.

Another finding, concerning the teachers' perception of imagination is the fact that they linked imagination to experience. Thus, experience can play a role in imagination and actually comprises its base. According to the teachers, children's imagination develops from the experiences they have had and lack of experience is another reason why they think that deaf children lack imagination. An example of this way of thinking lies in the teachers' words below:

"Their imagination is limited due to their experiences..." (Teacher 7)

"To have imagination without some experience is quite difficult" (Teacher 1)

Although teachers link children's imagination to the experiences that they have had, the evidence suggests their notion of experience refers to 'language experience' such as reading a book or being read to. An example of the teacher's notion of 'experience' is the following:

"Because you can develop this experience through what you read - and sometimes just through watching television or a film" (Teacher1)

Although reading may provide experience for the children to imagine it may not be considered as the only type of experience on which imagination can be based and nourish. Imagination can be based on experience from everyday life that children have:

Their everyday routines of going to sleep, getting dressed, having a bath, and so forth all provide material for their **imagination** (Harris, 2000, p. 25)

What further emerged from teachers' definitions of imagination is that no connection was made with 'fantasy'. No teacher mentioned the word 'fantasy' when asked to describe imagination. This comes in contradiction to the literature on imagination and fantasy. It was seen in 2.2 that fantasy is perceived as a form of imagination which enables individuals to imagine 'what if'.

To sum up, the difficulties faced by the teachers in replying to the questions about imagination, the absence from their answers of the crucial characteristics of imagination and the fact that their definitions are linked to practice, all contribute to the teachers' limited awareness of the concept. It is speculated that teachers focus their attention on aspects of the curriculum that can easily be measured such as literacy skills and less attention is paid to skills like imagination, and as a consequence teaching may also be affected. This hypothesis is discussed below when the relationship between writing as process and writing as product is presented. The above suggestion is in accordance with literature (see 2.3.2) discussing the difficulty (evident in the National Curriculum and in teaching practice) of balancing the teaching of language conventions and purpose for writing providing very limited time for the children to actually write by themselves.

The teachers' beliefs about deaf children's writing skills are discussed later in this section.

7.2.3 Imaginative writing of deaf children

Having discussed the differences in imaginative writing between deaf and hearing children, a more detailed discussion of the writing of deaf children, considering the evidence provided both in the quantitative and in the qualitative analysis, is relevant. An interesting finding that emerged from the analysis of teachers' interviews was that according to the teachers, deaf children experience problems in presenting characters in their stories. More specifically, teachers commented on the inability of deaf children to look at the feelings of characters and they attributed this to disrupted Theory of Mind in deaf children. Teachers' perceptions on imaginative writing of deaf children were contradicted by the evidence of the present study provided by the presentation of results and analysis of imaginative stories by four deaf children (Chapter 4). There was evidence suggesting that some deaf children can reflect on characters' feelings and emotions. An example is given from E's story (Participant Two):

“Screamed the tiny, evil and angry creature”

In this example, E uses adjectives to describe a character, including its feelings, and at the same time enables the reader to visualise this character.

The connection that some teachers made between the expression of imagination in writing and Theory of Mind can be explained in different ways. Although the ability to

understand other people's mental states (presented by Theory of Mind) is involved in the act of imagining various possibilities there was no evidence in the literature (see 2.2.2) to suggest a connection between Theory of Mind and imaginative writing. Neither was there evidence that limited Theory of Mind in children can account for children writing less imaginative stories. Therefore, it is suggested that the connection between imagination and Theory of Mind that teachers implied and the disrupted Theory of Mind that they attributed to deaf children can be explained by their limited familiarity with the literature of Theory of Mind. The second speculation that can be made regarding the above finding is that a disrupted Theory of Mind in deaf children implies concrete and literal thinking. In their attempt to explain and support their statements of underachievement of deaf children in imaginative writing, teachers referred to deaf children as being stilted in their thoughts.

Another finding which came to light from teachers' interviews relating to the performance of deaf children in imaginative writing is the fact that it was difficult for teachers to change their views even though they were presented with the children's stories which were very imaginative and scored highly in the scale. One explanation for this might be that teachers pay a lot of attention to grammar and structure and that this distracts them and keeps them away from reading between the lines and seeing the imagination of the deaf child which emerges from the text. This suggestion is also supported by Everhart and Marschark's, (1989) analysis of deaf children's writing (see 2.4.2 for a full discussion). This means that there is a gap between theory and practice and that Teachers of the Deaf do not base their opinions on robust evidence but on their

preconceptions and on false beliefs. As a result of this according to Heineman-Gosschalk and Webster (2003) there are likely to be many inconsistencies in teachers' approaches to promoting literacy in deaf children.

With regard to deaf children's performance in imaginative writing it can be concluded that, although deaf children's performance was not exceptional in any divisions of the scale, they managed to get good scores. It should be recalled that they were not given any visual or other stimulus to support the verbal instructions. According to the findings obtained both from the quantitative and the qualitative analyses, the performance of deaf children in the first division of the scale: "Story structure" reveals that deaf children have the essential knowledge and the skills to produce a story with a title, beginning and end which can be imaginative. The titles for the stories produced by the deaf children demonstrated that their thought is flexible and they are not restricted by the instructions given to them. Moreover, the findings about the dialogue used in their stories revealed that they are aware of direct speech, and that they can write things from another person's perspective and they can pretend. The notion of pretending and producing dialogues in written text lies very close to imaginative/symbolic play. In the present study, deaf children produced rich and highly imaginative dialogues. This is consistent with the findings of research studies presented in the literature review regarding the imaginative play of deaf children (Chapter 2, Sub-section 2.4.3).

Regarding the second division of the scale "story plot"; results showed that deaf students scored between 1.68 and 2 which was below the mean in the Imagination Story Scale.

Although their scores were not high, deaf children produced complete episodes in their stories and in some cases these were highly imaginative. This is in contrast to Yoshinaga-Itano et al.'s (1996) research in which results found that over 50% of the students in her study could not produce the minimal components of a good story. Consistent with the results of Yoshinaga-Itano were the results obtained by Meritt and Liles (1987), which showed that the writing of language-disordered children contained fewer complete story episodes, a lower mean number of main and subordinate clauses per complete episode, and a lower frequency of use of story grammar components than those of the control group. In the present study the finding was that most of the episodes (initiating event, response and consequence) produced by deaf children were not ordinary but involved original ideas which added to the imagination of the stories. The findings that derived from the qualitative analysis showed that there was anxiety for the continuation of the stories which indicates that deaf children are aware of the components that make a story interesting and attractive to the reader. The appearance of unexpected events in the stories of the deaf children indicated that their thoughts can be flexible and that they can think of ways to change the flow of the story and as a result add to the suspense and to the overall imagination. The fact that deaf children were able to come up with combinations of things that are unusual in reality, shows that they were able to make different and various connections between things based on their own experiences, and to "travel" to imaginary worlds. The overall finding regarding this division of the scale is that some deaf children were able to make the stories come alive through their plot and enable the reader to visualise them.

The results also indicated that deaf children scored higher than hearing children in linguistic imagination as was mentioned in the previous section. Although very few stories exhibited innovative use of words, the children who exhibited this characteristic of imagination in their stories showed that they were able to invent and produce new ideas and together with the innovative connection of words showed that they have elaborative thinking.

Results also indicated that deaf children can be original in their thoughts. Findings revealed that they scored almost the same in originality as hearing children and the qualitative analysis demonstrated that some deaf children's stories included some very original and unusual ideas. The themes of the stories produced by some deaf children were original and unique. Although they were based on their experience, the way the stories unfolded made them highly imaginative. One important finding is that a lot of deaf children came up with unusual and original ways to solve situations and problems that take place in the stories. This evidence suggests that deaf children were able to demonstrate executive functions in their writing such as problem solving, cognitive flexibility and abstract thinking. These characteristics exhibited in children's stories are similar to the ones reported by Remine et al. (2008). In their study they reported a relationship between deaf children's use of language and their ability to exhibit verbal executive functioning.

To sum up, the performance of deaf children in all divisions of the stories exhibited their flexible thinking and an ability to express that in writing. They were able to produce

original stories which were not mere descriptions of events but exciting and imaginative. Although their scores in the scale were not very high the fact that they were able to exhibit all or some of the features of the scale added value to their stories. These findings are consistent with Marschark (1983) who concluded that his sample of deaf school children was at least as capable as their hearing counterparts of producing figurative language and that they exhibited meta-linguistic awareness.

7.3 Deaf Children's Characteristics and Imaginative Writing

The quantitative analysis explored some of the factors that might affect deaf children's imaginative writing. The results from the analysis revealed information on the following factors that are discussed here: gender, age, degree of hearing loss, cochlear implants and creative writing in the classroom.

7.3.1 Gender

One of the factors that was hypothesized to affect imagination was gender. However, the regression analysis performed showed that imaginative writing was not predicted by gender. Evidence on the effect of gender on imaginative writing of deaf children was not provided in the imaginative stories analysis of the four deaf children (Chapter 4) as the children presented there were one girl and three boys. Therefore, no conclusions for the different performance of boys and girls can be deduced. The scores between boys and girls were the same in the first two stories although story three was the exception as boys outperformed girls. This finding came as a surprise, as based on some studies mentioned earlier (see Chapter 6, Section 6.2.1), girls were expected to perform better than boys in language skills. However, the current results are in accordance with a number of recent

studies (Baer and Kaufman, 2008; Matud and Grande, 2007) confirming that generally there is no difference in the performance of boys and girls in creativity tests. Nevertheless, in the present study differences between boys and girls were identified concerning the topic of the story. This suggests that there was a difference between boys and girls in different aspects of imagination. Also, the imagination of boys and girls was sparked by different stimuli. It is possible that due to the fact that the third story consisted more of adventure boys performed better than girls. In this particular story, boys were driven by the adventure and produced more exciting and imaginative stories whereas girls' stories can be characterised as more descriptive. This difference in boys and girls can be attributed to the different identifications of the gender roles for boys and girls. However, qualitative analysis focusing on the way that boys and girls expressed their imagination in writing and the details of their stories is required. Gender differences in creative ability are also supported by different studies (Ai, 1999; Brandau et al., 2007). In both studies it is stated that there is a difference between boys and girls in the different parameters of creativity. Thus, the current study suggests that although there is no difference between boys and girls in their scores in imaginative writing it is likely that their imagination is intrigued by different stimuli and is expressed in different ways. However, the above results have to be treated with caution as the sample of boys and girls was small (15 of each) and their scores derived from a categorical scale.

7.3.2 Age

The results of the present study also demonstrated no main effect for age although small differences between younger and older children were observed. However, the absence of

a significant difference between the age groups might be due to the close cluster of ages. It is likely that if the sample involved children with a wider age range different results might have been obtained. Nevertheless, small differences were observed with older children (11 years old) obtaining slightly higher scores than younger children (9 years of age). This is not a surprising result based on Vygotsky's theory of imagination (2004) according to which imagination is based on experience. Thus, the more experience the person has the more imaginative a person is. However, it is claimed that children have more imagination than adults because it is unique, not influenced by ordinary aspects of reality. The results of the current study support the fact that older children who have more experience were able to express themselves in more imaginative ways. Nevertheless, this finding needs to be treated with caution as the age difference between the children was small.

7.3.3 Degree of hearing loss

One of the factors that were explored as possibly affecting imagination of deaf children was the degree of hearing loss. Although according to the regression analysis deaf children's scores in imaginative writing were not predicted by the degree of hearing loss no safe conclusions can be made as the number of deaf children falling into the three categories of hearing loss was not equal. Thus, it seems that the group with fewer children (deaf children with severe hearing loss) scored higher than the two other groups in all three stories. However, due to the small sample size safe conclusions cannot be drawn and generalized. Evidence from the analysis of the imaginative stories of the four participants (Chapter 4) also suggested that degree of hearing loss may not influence

imaginative writing. An example of this observation would be the stories produced by D (profoundly deaf) exhibiting the most characteristics of imagination compared to the other three children. However, the writing produced by E (severely deaf) was very imaginative, although the stories produced by L who was profoundly deaf did not appear very imaginative. The fact that children with profound hearing loss scored higher in the scale than children with moderate hearing loss in all three stories can be explained by the fact that the majority of these children (12 out of 19) had cochlear implants (see discussion on cochlear implants below). In any case the fact that no significant variation was found in the performance of these three groups, suggested that the degree of hearing loss is not likely to affect deaf children's imaginative writing. This is in contrast to the findings from the teachers' interviews. Teachers considered that the imagination of deaf children depends on the degree of hearing loss. They came to that conclusion by associating imagination with language. Although there are studies commenting on the degree of hearing loss and its effect on deaf children's language development there are no known studies on the effect of the degree of hearing loss on deaf children's imagination. Thus, the results of the present study in this particular area cannot be compared with other research studies.

7.3.4 Type of amplification

Although as presented above, the degree of hearing loss did not have an effect on imagination of deaf children, the children who scored highest in the scale were children classified by their parents as profoundly deaf who had cochlear implants. Despite the fact that no significant variation was observed between cochlear implantation and

imaginative writing, children with cochlear implants scored higher in all three stories than children without cochlear implants. This observation was similar to the one reported by Remmel and Peters (2008) who reported that children with cochlear implants performed as well as hearing children in Theory of Mind tasks and better than deaf children without cochlear implants. These results can be compared to other research studies that support the fact that children with cochlear implants show higher achievement than deaf children without implants (Marschark et al., 2007). However, safe conclusions upon the effect of cochlear implants on deaf children's imagination cannot be drawn as a number of other factors influence their performance. Although there was information given by the parents concerning the age of implantation, its correlation to the imagination score was not explored as it was beyond the scope of the present study and in fact further investigation is needed. Moreover, there was no information on the type of amplification that the children without cochlear implants were using. Cochlear implants are one factor that might predict imaginative writing skills of deaf children but not the only one. The fact that children with cochlear implants in the present study performed better than the children without cochlear implants does not suggest that cochlear implants are a predictor of deaf children's imaginative writing. The factors that were explored here and the factors mentioned above, might all be predictive of deaf children's imaginative writing.

7.3.5 Home choice of communication

The type of communication used at home was explored as one other possible predictor of deaf children's creative writing. The findings showed that although home choice of

communication did not predict deaf children's scores in imaginative writing, children who were communicating with their parents using only speech scored higher in all three stories than children who were using both signs and speech. It was speculated that if the sample consisted of deaf children of deaf parents then the results might be different. It is also possible that deaf children who use both signs and speech might exhibit variation in their performance in imaginative writing depending on the level of their signing skills. A study (van Beijsterveldt, 2008) investigating deaf children's written narratives concluded that there were differences in the written patterns between high-proficiency and low-proficiency signing deaf children. Specifically, deaf children who signed proficiently made more references to emotional states in their narratives, and their writing was more elaborative compared to deaf children with lower signing skills.

Thus, the home choice of communication is one factor that might have an impact on deaf children's imaginative writing but it cannot be considered on its own without careful consideration of the quality of communication and of the capability of the parents to use either one language or the other.

The importance of the home choice of communication is also emphasised in the teachers' interviews as these were analysed in Chapter 6. It seems that although they agree on the fact that home choice of communication does play a role on deaf children's imaginative writing, it is not perceived as a predictor of imagination on its own. The individuality of each child together with the quality of communication at home can all have an impact on deaf children's imagination. It is likely that because teachers believed that language

skills were a crucial factor influencing deaf children's imagination, but they held different views on the topic, their views on the type of communication that affects imagination varied.

7.3.6 Writing at home

Linked to the previous factor is creative writing at home. Thus, the encouragement that deaf children receive from their parents to think imaginatively or to produce imaginative stories was set as another factor that might influence imagination and that had to be explored. The results showed that children who were encouraged by their parents to engage in writing tasks at home scored higher in all three stories than children who did not receive any encouragement in imaginative writing. Although the correlation between the above factors was not significant, the higher scores of the group that was engaged in creative writing at home points towards the importance of the home literacy environment and to the importance of interaction between deaf children and their parents. This finding is in accordance with Aram et al. (2006) who demonstrated that a child's early literacy can be predicted by the interaction of mothers and their deaf children in both story telling and writing activities.

Although, as was mentioned above, the performance of those children encouraged by their parents to write at home and those that were not, differed, there was no further evidence to explain the reason behind this difference. Firstly, there was no evidence on the kind of activities that these children were involved in. If they were asked by their parents to write imaginative stories based on their experience and they assisted the

children in exploring and expanding their imagination then the findings above were of great importance. It is also likely that the higher achievement of the children who received encouragement was not attributable solely to the parental mediation on writing but more on the interaction with their parents. These suggestions are in accordance with the literature review stressing the influence that parent/deaf child interaction can have on the children's literacy achievements (see 2.4.2).

7.4 Activities in the classroom that promote imagination

The findings for the factors explored so far were obtained through the quantitative analysis and through the investigation of the correlation of each factor with the scores in imaginative writing. The findings regarding this factor, however, were obtained through qualitative analysis of the teachers' interviews. All the teachers interviewed stated that they used some sort of imaginative writing activities in the classroom. What needs to be discussed here is the kind of activities they use, the importance they attributed to creative writing and their perceptions about deaf children's creative writing.

Although all the teachers reported using a variety of creative writing activities in the classroom, they all seemed to follow the same pattern. A lot of attention was paid to stimulating deaf children's imagination and less time was devoted to the actual task of writing. The findings suggested that there was a lot of input from the teachers on the activities and that children were given very little freedom to express their ideas and explore their imagination. The teachers paid a lot of attention to 'building up' which means that the teacher always provided the base for deaf children to build on. However

important is the use of activities to engage deaf children with writing and to stimulate their imagination, it is equally important to allow time and space for them to function as independent thinkers and writers. An example of the fact that teachers provide a lot of stimuli to deaf children is actually illustrated by Teacher 6 referring to creative writing in the classroom:

“Yes, but the problem is that you feed them almost too much.”

The fact that no reference was made by the teachers to activities in which children were free to create a story on their own or create an image in their heads without their teachers' input suggests that the teachers always had the control of children's creative writing. This characteristic is in agreement with Fisher's (2006) findings concerning the issue of control that teachers have on children's writing. She stressed the importance of teachers mediating and supporting children's writing but the same time children should be the one in control of their writing:

Furthermore, if scaffolding is used to help young children learn about using writing conventions, it must be followed by handing over the control to allow them to develop independence. (p. 205)

Another possible explanation for teachers not letting children express their imagination freely is that they had low expectations from them and usually underestimated their abilities. As was mentioned earlier in this chapter (Sub-section 7.2.3), teachers seemed to be very concerned with language and grammar and they were not able to accept that deaf children actually do have imagination and can express it even in writing when they are given the right opportunity to do so. It is crucial for teachers to believe in the children

and in their abilities. Once teachers are willing to see what deaf children really can do and produce, then a whole world about deaf children's ideas can open in front of their eyes.

It is important to discuss the fact that although teachers claimed that creative activities were part of their teaching they seemed uncertain and confused when they were asked about the meaning of imagination and creativity (discussion presented in 7.2.2). Despite the fact that they all agreed on the importance of stimuli for deaf children's imaginative writing and they all paid a lot of attention to that as being the main way to promote deaf children's imagination, they did not seem to have thought deeply about the meaning of imagination, its differentiation from creativity and its importance for the development of deaf children.

7.5 Imaginative Writing and Writing as Product

The findings from the quantitative analysis suggested that there was a medium correlation between deaf children's writing as product and imaginative writing. Thus, a very imaginative story which contains a lot of original ideas is not necessarily a piece of writing free from grammatical and structural mistakes. These mistakes do not prevent deaf children from expressing their imagination in writing. It is speculated that one of the reasons which enabled the deaf children in this research to produce imaginative stories was the fact that in the instructions given they were asked not to worry about grammar, spelling and structure but to concentrate on and pay attention to their ideas. Expressing ideas in writing is not an easy task and there is an interactive relationship between the thoughts or the knowledge that a person holds and the way that he/she puts these thoughts

on paper. Bereiter and Scardamalia (1987) proposed a model of children's writing: knowledge-telling. In their model for novice writers they described an interactive relationship between knowledge (retrieving ideas from long term memory) and telling (writing them).

Although the instruction for the writing of the stories (mentioned above) concerning grammar, spelling and structure were given to children, it is perhaps noteworthy that the children in this study achieved better scores in their stories (scored with Burman's scale) than the scores obtained by the children involved in Burman's research (2008). It is likely that because there was no pressure on them to produce an error-free piece of writing, they expressed themselves freely and as a result they made fewer mistakes. The pressure from Teachers of the Deaf to concentrate on language skills and to produce correct sentences may be perceived as so intense that it can block children and prevent them from producing a coherent piece of writing. As Fisher (2006) states:

The emphasis on focused teaching has led to a suppression of creativity and enjoyment in writing. From various quarters the emphasis on direct teaching and prototypical models has given rise to criticism that children are being taught to write to a formula and the result is correct but lifeless prose (p.194).

The emphasis on focused teaching was also evident in the present research according to the teachers. The issue of focusing on the product rather than on the process of writing was also evident in Enns and Hall's research (2007) in which the results indicated that teachers were concerned as there was never enough time to teach basic skills of writing and at the same time focus on writing as process. In the schools, attention is concentrated on the basic skills of writing and it may be that not enough attention is paid to teaching

the skills of becoming independent writers (see 2.3.2 for discussion on teaching in the classroom).

The importance of the findings of the present study lie in the fact that it showed that there was some sort of correlation between writing skills and imagination which was suggestive that both types of writing are important for the development of deaf children as writers. Wolbers (2008) suggests that there is a need for a model incorporating both holistic writing activities and skills-based instructions. He goes further to suggest that this model is one in which both basic writing skills and writing as process are taught in the context of real writing activities for real audiences which involves students and teachers collaboratively constructing a piece of text.

7.6 Discussion on the Methodology of the Research

7.6.1 Choice of methods

The issue of imagination and moreover of imaginative writing is very controversial and raises a lot of questions and issues. Although it is hard to investigate imaginative writing itself, as it has a very broad and vague meaning, it is even more difficult to investigate imaginative writing of deaf children because of the heterogeneity of the group. Concerns about ways of assessing imagination and well established perceptions about imagination of deaf children all contributed to the dilemma of how to design the research and which research methods to use. For such a complicated issue with a lot of parameters and factors affecting it the mixed-method design that was used seemed the most appropriate.

A mixed-method design (Hunt, 2007) as is presented in Chapter 3, in which a result from one type of research is complemented with another one and consequently no available data are missed out, was effective for the current research study. Such a subjective topic as imagination needed to be investigated using an objective measurement. Thus, a scale that provided an exact score for each story was the best tool for analysis. However, the scale provided a measurement for the stories so they could be rated but it did not give any further details that would contribute to the understanding of deaf children's imaginative writing. The employment of qualitative analysis contributed to a deeper understanding of how deaf children express their imagination in writing. The quantitative and qualitative analyses complemented each other and they both contributed to the data accuracy and validity.

Another decision concerning the design of the research that had to be made was sampling. As was presented in Chapter 3 the participants in the research were not chosen to be representative of the population but were chosen purposively based on their characteristics. The sample was appropriate for quantitative analysis in relation to the purposes of the present study and the resources available. In particular this was relevant considering that this is exploratory research in a new field; investigating imaginative writing in deaf children.

7.6.2 Data collection tools

The mixed-method design points also towards the use of various data collection tools. The main data presented were children's written texts. The choice of imaginative stories

as the data collection tool seemed most appropriate for the research. The way that the topics were presented to the children without the use of visual stimuli and without preparation for the stories, based on the pilot study, proved to be effective. The aim of the research was to assess deaf children's imagination as expressed in their written stories and not to find ways to promote it. The broad topic that was given to the children each time served exactly this purpose. It was stimulating enough for the children to produce a story and at the same time not too directive so it allowed children enough space to present their own ideas.

The choice of the topic for each story proved to be a very hard task. The first topic that was also used in the pilot study was already tested and known to be successful. The other two topics that were chosen for the reasons presented in Chapter 3 proved to be successful for different reasons. The idea to choose different topics for the three stories proved to be right as different topics appealed to different children and even the same children performed differently in different topics. The variation of scores in different stories revealed that children cannot be judged as imaginative or not based on one assessment and that the topic of a story can trigger deaf children's imagination to different extents.

The complexity of the nature of creative writing of deaf children and the lack of resources pointed towards the use of more than one data collection tool. As was presented in Chapter 3, the interviews were used as supportive data in order to collect more information and explore factors that might affect deaf children's imaginative

writing. The schedule of the interview and the time in the research that the interviews took place (at the end of the data collection) proved to be helpful. The presentation of the children's stories to the teachers, even when they were clearly imaginative, did not cause the Teachers of the Deaf to change their perceptions of deaf children's abilities.

7.6.2.1 Data analysis tools

The decision on which data analysis tools to use and their development proved to be the hardest part of the research. As was mentioned above, although the sample of the children could be considered small for conducting quantitative analysis, the overall number of stories was 180. Taking that into consideration it was obvious that it was feasible to conduct quantitative analysis. Given the complex nature of the inquiry, as was mentioned earlier in this chapter and in Chapter 2, the analysis had to be as objective as possible. The development of the assessment tool was a very long and time-consuming process. However, the scale could not have been constructed without the qualitative analysis of some children's stories. The analysis of the four children's imaginative stories (Chapter 4) proved of great value in elucidating the questions and in supporting the arguments.

As was discussed extensively in Chapter 5, the final version of the "Imagination Story Scale" was developed after many alterations took place and the stories were assessed by different coders. The final version of the scale which was used to assess all the stories proved to be effective and some very interesting and thought-provoking results were obtained. The scale was designed to investigate deaf children's stories, taking into

consideration a lot of factors. This valuable tool could be further tested and standardised on wider populations to make it possible to use it in schools.

The use of a standardised assessment to evaluate writing as product and its comparison with the score obtained by the “Imagination Story Scale”, proved to be efficient and to provide valuable results. The analysis of the four children’s imaginative stories provided valuable information about the writing of deaf children and stressed the heterogeneity of this group. Individual information on the deaf children’s writing styles was valuable in order to appreciate deaf children’s imagination.

7.7 Conclusion

This chapter discussed the findings of the present research and explored the reasons behind them. The results obtained in any research study depend on a number of factors that have to do with the participants, the researcher and the decisions made on the research design. The absence of previous research studies on imaginative writing of deaf children although it gives great value to the present research, at the same time attributes a great sense of responsibility with respect to the results obtained.

The most important contribution of this study is that it attempted to explore and question the received wisdom that deaf children are stilted and unimaginative in their writing. Both the quantitative and the qualitative analysis revealed that there are deaf children who have rich imaginations and unique ways to put it on paper and that further research

needs to be done. The samples of deaf children's writing generated for this study should be sufficient to challenge teachers' perceptions of their imagination.

The limitations of the present study, the implications for further research and suggestions for changes in the teaching practice are presented in the next and final chapter.

CHAPTER EIGHT

CONCLUSION

Ithaka

*Ithaka gave you the marvellous journey.
Without her you wouldn't have set out.
She has nothing left to give you now.*

*And if you find her poor, Ithaka won't have fooled you.
Wise as you will have become, so full of experience,
you'll have understood by then what these Ithakas mean.*

8.1 Introduction

This research journey began from my interest as a special needs teacher to explore the multi-layered issue of imaginative writing of deaf children. The questions that were raised were the following:

- How can imaginative writing of deaf children be assessed?
- Do deaf children exhibit imagination in their writing?
- Which factors might have an impact on deaf children's imagination?

In seeking answers to the above questions, the literature on the relating themes on deaf children's imagination was reviewed; a mixed methodology approach using both quantitative analysis and qualitative methodology was used to grasp the wider picture of imaginative writing of deaf children and data based on these two approaches were analysed.

The aim of the present chapter is to summarize and evaluate the findings of the present research. The results are presented following the order of the research questions. Some of the factors related to the effectiveness of the research and implications for further research are also discussed here.

8.2 Overview of the Results of the Research

8.2.1 How can imaginative writing of deaf children be assessed?

The difficulty in exploring deaf children's imaginative writing is two-fold. The first difficulty lies in the definition of "imaginative writing". The ambiguous nature of the word "imagination", the various definitions attributed to it and the various approaches towards its assessment created major problems at the beginning of the study. The second difficulty is due to the population of deaf children, whose writing is assessed. Taking those difficulties into account it was decided to employ a mixed methodology in order to find a way towards the assessment of imaginative writing. The use of both quantitative and qualitative methodology gave the opportunity to approach imaginative writing in a more holistic way and include in the assessment all those features that might be missing from the mere quantitative analysis.

Before attempting to assess imaginative writing, a clear conceptual framework concerning the meaning of imagination had to be adopted. Therefore, literature was reviewed in order to uncover the meaning of imagination and explore children's development of imagination. Following the study of some of the existent scales which include the assessment of imagination and review of the research studies that employ textual analysis it was concluded that there is no single assessment for children's

imaginative writing. Therefore, the development of a scale that would be easy to use and at the same time would be suitable for exploring deaf children's writing was needed.

The first step towards the development of such a scale was the need to be accurate and consistent with the definition attributed to the concept of imagination for the purpose of the present study. From the beginning of this inquiry distinct meanings were attributed to the words "imagination" and "creativity" and it was made clear that the current study focuses on the expression of imagination in writing. The conception of imagination as the development of ideas in one's mind which are based on everyday life but which at the same time move a step forward from it into worlds that do not exist formed the basis on which its assessment was based.

The task of developing a new assessment tool was a challenging and daunting one that required a lot of thought, effort and time. This is the reason why qualitative methodology was also employed in order to assess imaginative writing. Based on the concept of imagination and on its characteristics, imaginative stories were analysed qualitatively. The performance of each child in the stories was analysed in depth, including characteristics of the individual children, and perceptions of the teachers about their performance were considered. The stories of each child were analysed taking into account issues like the length of the stories, the impression that the stories leave with the reader, characterisation and other features of imaginative writing.

Based on the literature of the concept of imagination and on features uncovered from the qualitative analysis of the stories, the first version of the imagination scale was

developed. It was absolutely crucial to make sure that the scale was measuring what it was intended to measure and that it was suitable for the group that it was designed for. For that reason other people reviewed the scale and commented on its accessibility and clarity. The development of the scale went through different stages, with the literature on imagination, on previous assessment tools and the invaluable help of different raters contributing to the backbone of the final version of the scale.

The “Imagination Story Scale” includes different features (structure, plot, linguistic imagination, originality) which taken together show that imagination is perceived as a whole. Having four divisions which rate different characteristics of imagination meant that imagination was assessed taking into account various aspects. Therefore, if a child’s story scored really low in one division this did not mean that it was unimaginative as it could score highly in other divisions. The “Imagination Story Scale” became an easy tool to use and children’s stories were assessed using this objective measure rather than relying solely on the opinion of the reader.

In conclusion, the research question “How can Imaginative writing of deaf children be assessed” was answered by developing the “Imagination Story Scale”. The purpose of the development of this scale was to provide a simple tool for the teachers in schools to assess deaf children’s imagination. However, the scale can also be used for stories written by hearing children. The development of the scale was a long process but it proved to be a valuable one, as based on this the second research question was explored. The individual analysis of imaginative stories based on characteristics that cannot be quantified assisted in the rounded and more in depth assessment of imaginative writing.

8.2.2 Do deaf children exhibit imagination in their writing?

The tools used to assess deaf children's imaginative writing were summarised in the previous section. The question of the performance of deaf children's imaginative writing cannot be given a "yes" or "no" answer. The answer to this question is a more complicated one and it can only be considered within the context in which it is taking place. Imaginative writing of deaf children in this study is explored in the classroom and therefore it cannot be examined in depth without taking into account teachers' perceptions of deaf children's imagination.

To answer this question, imaginative stories of both deaf and hearing children were scored using the "Imagination Story scale". The results showed that there was no great variation between hearing and deaf children but there was variation between the different stories. In the comparison between deaf and hearing children, there was not enough evidence to suggest that deaf children exhibit less imagination than hearing children. Safe conclusions could not be drawn without considering the teachers' perceptions of deaf children's imagination. In contradiction to the imaginative and illustrative stories produced by deaf children, teachers' comments indicated that they thought that deaf children were really unimaginative. The teachers' perceptions of deaf children's low imaginative abilities are based on linguistic skills and related to the definitions that they attribute to imagination.

The teachers in the present study seemed convinced that deaf children did not produce imaginative stories and although some of the students did, teachers did not change their views. It is possible that, by paying close attention to the production of

grammatically and syntactically correct sentences, they do not see beyond the surface features of deaf children's writing, into their ideas. Similarly deaf children have learnt to be fed with a lot of ideas and do a lot of preparation work before actually engaging in imaginative writing. This research study has revealed that deaf children do have ideas and they are able to express them once they are given the opportunity to do so. Teaching of writing and especially of creative writing is a very important task and it should be taught but as Fisher (2006) comments:

If scaffolding is used to help young writers learn about using writing conventions, it must be followed by handing over the control to allow them to develop independence (p. 205).

The answer to the research question on deaf children's imaginative writing is a complex one. Evidence of the imagination that deaf children exhibit in writing cannot only be found in the results of the "Imagination Story scale" but also on the in depth analysis of their stories. The stories of four deaf children analysed in Chapter 4 demonstrate the rich imagination that deaf children have and also illustrate the individuality of each child. Each child produced stories using his/her imagination in different ways based on their experiences and on their personal internalisation of reality.

To sum up, deaf children's imaginative writing needs to be considered in the wider environment in which it takes place. Teachers' attitudes towards deaf children's imaginative writing do play a role in the way that they perceive what is produced by deaf children but deaf children have to be treated as individuals with abilities and skills. As was discovered from the results from the quantitative analysis, hearing deprivation cannot be translated into deprivation in cognitive abilities such as lack of

imagination. The research question “Do deaf children exhibit imagination in their writing” was examined broadly taking into account different dimensions. The results are not in accordance with some of the research studies presented in the literature and as a matter of fact they can be used as the basis of a new research work in which imaginative abilities of deaf children have to be acknowledged and celebrated.

8.2.3 Which factors can affect deaf children’s imaginative writing?

In the attempt to seek an answer to the previous question on deaf children’s achievements on imaginative writing, it was made clear that deaf children are a heterogeneous group and as a result a lot of factors might affect their imagination in writing. The factors examined in this study were: gender, age, degree of hearing loss, home choice of communication, cochlear implants, activities in the classroom that promote imagination and writing skills.

In seeking answers to the above research question, both deaf children’s scores in the imaginative story scale and teachers’ interviews were used. The limited variation in the scores between deaf children concerning gender showed that in the present study both boys and girls performed similarly in imaginative writing. The equal number of boys and girls obtained for the research helped in making this comparison. Although gender did not have an effect on the imaginative stories produced by the children in the present research, this cannot be generalised. Thus, gender might have an effect on language skills or on other creative abilities.

It can be suggested that imagination is different at different stages of life. Thus, imagination among children and adults can vary. Based on the meaning attributed to

imagination, as was presented in Chapter 2, imagination of children and adults can be given a different meaning and different value. Children can be considered to have higher imagination than adults as it is unspoiled by reality but at the same time it can be suggested that they have less imagination than adults as they do not have a lot of experience. In the present study, age was not proved to influence children's imaginative writing. Although older deaf children (11 years old) achieved slightly higher scores than younger children (9 years old), there was little variation in their scores. However, the age difference between the children was very small (two years) and as such no safe conclusions can be drawn. Although it is likely that children at different ages might exhibit their imagination in different ways, this was not explored as it was not the objective of the present study. Moreover, it is likely that if adults were also included different results concerning the effect of age on imagination might be drawn.

On the other hand, it can be supposed that degree of hearing loss which is one of the main characteristics of deaf children and one of the selection criteria in this study does make a difference. According to the literature suggesting that deaf children lack imagination because of their hearing deprivation it was anticipated that the degree of hearing loss might have an effect on deaf children's imaginative writing. Making connection between linguistic skills and imaginative writing abilities of deaf children teachers interviewed in this study believed that children with moderate hearing loss were likely to produce more imaginative stories than children with profound hearing loss as the former group have better access to sound and as a result more stimuli and more experience on which imagination is based. The results of the present study revealed that there was not a lot of variation in the scores related to the degree of

hearing loss of deaf children. Although children with profound hearing loss produced slightly higher scores than children with moderate hearing loss, degree of hearing loss proved not to be a factor affecting imaginative writing. Moreover, the children identified as being profoundly deaf were the ones where the majority had a cochlear implant. The small numbers in the two comparison groups, and the use of cochlear implants by this group does not allow for safe conclusions and generalisations. What can be suggested here is that sensory deprivation cannot be considered as a factor on its own that can have an impact on imagination of deaf children.

Similar to the results summarised above, children with cochlear implants performed slightly better than children without. However, overall cochlear implants did not prove to have a direct impact on imaginative writing of deaf children. The literature is vast and research regarding their effectiveness and the direct impact that they have on the language and literacy of deaf children is highly variable. Their effective use is dependent on several factors and as a result conclusions cannot be easily drawn.

The home choice of communication was investigated as a possible factor influencing deaf children's imaginative writing. The type of communication used by deaf children has raised a lot of controversy among the researchers in the field and as a result there remains a lot of strongly-held opinions about the most effective type of communication and the effect that it has on the language and literacy development of deaf children. As the present study is not concerned with this issue, home choice of communication was only briefly explored here as a factor affecting imaginative writing. Performance in imaginative writing of children using only oral communication at home and children using both signs and oral speech did not show a

lot of variation. Although deaf children using oral communication scored slightly higher than the other children, cochlear implants did not prove to affect imagination. However, it is very difficult to draw conclusions on the effect of cochlear implants on imaginative writing of deaf children as information on the type of amplification used by children without cochlear implants was not provided. Although it can be argued that the question concerning the effect of cochlear implants on imaginative writing of deaf children could have been answered more insightfully, if the question asked the parents had been about the type of amplification used by their children and not if they have cochlear implants or not, the scope of the research was to explore only the effect of cochlear implants in imaginative writing. Research studies presented in Chapter 2 argued that limited access to sounds and linguistic deprivation can limit imagination of deaf children; something that was not observed in the present study.

It is argued that imagination is based on experience. The experiences that children have at home are really important and can play a major role in their future development. The children encouraged by their parents to engage in creative activities at home as reported by their parents, scored slightly higher in the “Imagination Story Scale” than children who were not encouraged to do that. However, there was not a lot of variation in the performance between those two groups of children. Nevertheless, the results obtained here cannot be generalised and applied to the wider population of deaf children as the information provided by the parents was not sufficiently detailed. The information sheet was sent to them by the teachers and as a result no further questions could be asked regarding the type of writing activities encouraged at home.

Going back to the relationship between imagination and language, it was important to explore the relationship between writing skills and imaginative writing. Deaf children may lag behind hearing children in certain areas of literacy but their strengths have to be highlighted. Their good performance in imaginative writing in the present study must be perceived in relation to their performance in syntax and grammar in order to grasp the bigger picture of their abilities. The comparison between their scores in imaginative writing and in writing skills (measured using Burman's scale for deaf children's writing assesement) showed that there is some connection between those two but not a strong one. It was concluded that although children need to have an adequate level of writing in order to produce written stories, imagination can be expressed even by deaf children with basic writing skills.

8.3 Factors Related to Effectiveness of Research

When reviewing a research study the focus should be both on its strengths and its limitations. The recognition of strengths and limitations of the present research study aims to contribute to its overall effectiveness and value. The major aim of a research study is to contribute to a particular field by producing and presenting new knowledge. However, every research study has areas of development on which new research can be based.

8.3.1 Strengths of the research

The major contribution that this research has made to knowledge is the development of a new assessment tool. The first step into investigation of imaginative writing of deaf children was to find a way of assessment. The "Imagination Story Scale" as this is described and discussed in several places in this study is the only known tool in existence that can be used for scoring deaf children's imaginative writing. The

imagination story scale can be of great help for both class teachers and Teachers of the Deaf as it is easy and quick to use. It is suggested that if teachers can themselves score deaf children's imagination and actually see for themselves their performance, it is likely that their perceptions will change. Drawing conclusions from the teachers' interviews their views on deaf children's imagination were generally based on deaf children's linguistic performance and not actually on their imagination. The assessment of deaf children's imaginative writing can actually provide strong evidence on deaf children's imaginative skills.

The second strength of this study is the sample size: sixty children were involved in this study, thirty deaf and thirty hearing. The review of research studies on deaf children has revealed that the samples that are used are quite small including few children and focusing on studies of individual children. The heterogeneity of the deaf population and the individual characteristics (additional disabilities, aetiology of deafness, degree of hearing loss) of deaf children can explain the use of small samples in numerous research studies. However, the present research study managed to include a larger number of children compared to other research studies. Although it can be claimed that thirty children is not a large number, especially for quantitative analysis, bearing in mind the individual characteristics of deaf children and the difficulty of finding deaf children to fall into the research criteria, it can be considered a good size of sample. Moreover, the data analysed consisted of 180 stories. The production of three stories by each child, gave the advantage having enough data to analyse and draw conclusions.

Another strength of the present study is the importance of its main finding. It was concluded that deaf children have imagination and by no means are stilted or unimaginative. Although the level of deaf children's imagination can vary from child to child there was no evidence to suggest that they lag behind in imagination compared to hearing children. There was no evidence to suggest that sensory impairment affects deaf children's ideas. It is suggested that the results from this research can help teachers see deaf children's abilities in imaginative writing. Although the importance of learning grammar and syntax is unquestionable, the promotion of cognitive abilities of deaf children is also important and needs to be perceived in relationship to literacy achievements. This research has highlighted the necessity of teachers believing in deaf children's imaginative abilities. This research study has revealed that deaf children can express themselves imaginatively on paper even without being given lots of stimuli, although the nature of stimuli given did play a role on their imaginative productions. Once they felt free to write without worrying about grammatical mistakes, then they got the chance to create stories coming from their imagination and to express them in writing.

Another factor that contributes to the effectiveness of the present research is the use of mixed methodology. The advantage of using both quantitative and qualitative methodology lies in the depth of the information that is received. A conceptually difficult theme such as imagination cannot be explored thoroughly using only one method. Moreover, by using both methodologies and by employing different techniques (studies of individual children, interviews, Story Scale scoring) various factors have been taken into account and various perspectives of deaf children's imagination have been reviewed. Although the design of the present research was

very difficult in terms of finding the most appropriate way of exploring deaf children's imagination, the combination of different methods really added to the overall effectiveness of the research.

8.3.2 Limitations of the research

However careful the design of a research study might be, regardless of the strengths that it can show, there are always limitations. Every research study is designed to explore a certain area of knowledge and given the time limits provided only certain issues can be explored. Regardless of the strong relationship between reading and writing, this research did not explore it. The focus of this research was on imaginative writing of deaf children and the correlation between that and reading is a very important issue that can form a research project on its own.

Another limitation of the present research closely related to the correlation between reading and writing is the matching of the groups of children. The group of deaf children was matched with the group of hearing children on chronological age and academic performance according to their teachers. However, based on the fact that deaf children can lag behind hearing children in literacy, the groups would have been more closely matched if matching was based on reading age rather than chronological age. However, the hearing children involved in the research, were chosen from the same class that deaf children were educated in. Thus, it was ensured that the two groups of children received the same teaching in the same environment and they were chosen by their teachers in order to be of approximately the same level academically.

Only deaf children of hearing parents took part in this research; no sample was obtained from deaf children of deaf parents. Although, as it was mentioned earlier,

the sample of deaf children was sufficient and different methods were employed for the analysis of the imaginative stories, results cannot be easily generalised and although they apply for the sample of the present study they may not be applicable to the wider population of deaf children. Children involved in this study were children from mainstream schools and units and as a matter of fact results might have been different if children from special schools were involved.

Moreover, the sample of deaf children was not chosen according to the onset of deafness. A distinction between pre-lingually and post-lingually deaf children was not made. Although the age that a child became deaf can have a huge impact on his/her future development in literacy and language in the present study it was not possible to take this into account. As was also mentioned earlier, the information about deaf children's characteristics was given by the parents they were asked about the age at diagnosis and not the age of onset of deafness. Although parents answered the question of the age of diagnosis it is likely that there was a gap between the age of children becoming deaf and the age that were diagnosed.

8.4 Implications for Further Research

Every research study answers some questions that have been unanswered from previous research and at the same time provokes questions for further research. The present research study gave answers to the questions of assessing imagination and on deaf children's imagination in particular taking into consideration different aspects. However, there are still questions around the issue of deaf children's imagination that remained unanswered and can form the basis for future research in the field.

The development of the imagination scale was a big step forward but at the same time it was just designed for the purpose of assessment for the present research. It can potentially become a very useful tool that can widely be used not only for the assessment of deaf children's imaginative writing but for every child. Further research needs to be undertaken in order to include bigger samples from different ages and to standardise the scale. With some alterations it can be used for assessing children of a wide age range. For that purpose a funded research study which would include at least 500 samples of deaf children including primary and secondary schools needs to be undertaken.

Furthermore, the scale needs to be revised and altered in order to be applicable to deaf children whose first language is BSL. The same features indicating imagination can be used but in a different way in order to assess the writing of deaf children who make use of BSL structure in their writing. A suggestion would be to develop the scale in such a way that imagination of deaf children's drawings which accompanies their imaginative stories can also be assessed. It would be interesting to explore if there are actually any differences between deaf children educated in schools for the deaf who use sign language and children educated in mainstream schools who mostly use spoken language or both speech and signs.

Another suggestion for further research would be to compare intelligence with deaf children's achievements in imaginative writing. As was mentioned in the literature review perceptions of deaf children's intelligence went through different stages from considering them inferior, concrete, to actually realising that they can perform at the same level as hearing children in non-verbal intelligence tests. Research on deaf

children's intelligence was part of the reason that for many years deaf children were considered concrete and unimaginative. Now, taking as a start the present research and demonstrating the ability of deaf children to write imaginatively there is a need for a research study comparing intelligence of deaf children with imagination. That would be a very interesting and revealing study as it seems that teachers make connections (one teacher commented on that in the interviews) between deaf children's intelligence and their creative abilities.

Another study which could be based on the findings of the present research and also expand on deaf children's imagination would be one connecting reading and imaginative writing. As was mentioned in Chapter 2, there is a strong link between reading and writing. Also, imagination as it was said is based on experience and reading is a great experience for children. Thus, it is very important to explore the impact of reading on deaf children's imaginative writing. An interesting study might be one in which reading comprehension is linked to imaginative writing. The level of children's understanding of written text might have an influence on their own written productions. Furthermore it would be interesting to investigate children's experience of different story books and their impact on imagination.

8.5 Summary

This research journey came to its end. This chapter attempted to review and discuss the findings as these were presented in previous chapters. Having undergone a lot of difficult stages and having taken a lot of important decisions the aim of the present study was accomplished. Imagination of deaf children was investigated meticulously taking into account different perspectives and having considered possible factors that

can influence it. As with every research study, it has its strong and its weak points. However, perfection cannot be claimed in any research. What has been tried here was to explore the issue of deaf children's imagination and enhance the knowledge in the field. It has to be admitted that undertaking research on deaf children's imaginative writing was a risky task but the results and the knowledge in different levels achieved from this study proved that the challenge taken was worth it!

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APPENDIX 1

Letter to the Teachers of the Deaf

Dear Teacher,

My name is Maria-Emmanouela Terlektsi and I am currently a PhD student at the University of Birmingham in the School of Education. I am hoping to carry out research concerning creative writing of deaf children and its correlation with the factors that can possibly affect it.

The children taking part in the study have to be 9-11 years old, with a degree of hearing loss greater than 40 db and being educated in a total communication or oral approach. The study consists of three visits to your school in which the children selected for the study are asked to write a story using their imagination. Children's parents will be sent an information sheet in which they provide us with valuable information about their children. Moreover, you are invited to answer some questions concerning if and how deaf children's imagination is promoted in the school. By giving your permission for your deaf children in the classroom to participate you will help us to explore the imagination of deaf children in writing stories and collect valuable data about how we can build their imagination.

The results will be analyzed and included in my PhD thesis. The information given to me will be completely confidential and neither your name, nor children's names will appear in the thesis.

Yours faithfully,

Maria-Emmanouela Terlektsi

APPENDIX 2

Letter to Head Teachers

Letter to Parents

Parents' Information Sheet

Letter to Children

Dear Head Teacher,

My name is Maria-Emmanouela Terlektsi and I am currently a PhD student at the University of Birmingham in the School of Education. I am hoping to carry out research concerning creative writing of deaf children and its correlation with the factors that can possibly affect it.

The children taking part in the study have to be 9-11 years old, with a degree of hearing loss greater than 40 db and being educated in a total communication or oral approach. The study consists of three visits to your school in which the children selected for the study are asked to write a story using their imagination. Children's parents will be sent an information sheet in which they provide us with valuable information about their children. Moreover, you are invited to answer some questions concerning if and how deaf children's imagination is promoted in the school. By giving your permission for your deaf children in the classroom to participate you will help us to explore the imagination of deaf children in writing stories and collect valuable data about how we can built their imagination.

The results will be analyzed and included in my PhD thesis. The information given to me will be completely confidential and neither your name, nor children's names will appear in the thesis.

Yours faithfully,

Maria-Emmanouela Terlektsi



**Information for parents whose child is
involved in a research study**

Imaginative writing of deaf children

University of Birmingham

PhD Research

Dear Parent,

Your child is invited to take part in a research study. Before you decide it is important that you understand why we are doing the study and what it will involve. Please ask me if you are unclear about anything or if you would like more information and then take your time to decide. You may discuss the letter with others if you wish in order to help you to decide. Thank you for taking the time to look at this information.

Yours faithfully,

Maria-Emmanouela Terlektsi

What is the research study about?

I want to find out how imaginative deaf children's writing is. I am interested in exploring the imagination, the ideas that deaf children express in their writing. Children's imagination is high and I would like to see how to help deaf children to express their imagination in their writing.

What will my child be asked to do?

All the children involved in the study will be asked to write an imaginative story. These stories will be analysed and correlation between levels of imagination, hearing loss and performance in writing will be investigated. In order to have a complete picture of your child you are asked to give personal information about your child (degree of hearing loss, whether s/he has a cochlear implant, method of communication, for example).

What will happen to the results of the study?

This research is for the completion of my PhD thesis and the results will form a part of it. The results will be presented in a way that no names will appear and no child would be identified.

Do I have to give my permission for my child's participation in the research?

In order for your child to take part in the research you have to give your written permission. If you decide that you don't want your child to take part in this research, this will not affect your child's treatment in the school environment.

Why has my child been chosen?

I have chosen a group of deaf children age 9-11, with a hearing loss greater than 40 db and your child is part of the group.

INFORMED CONSENT FORM FOR PARENTS TO GIVE PERMISSION FOR THEIR CHILD'S PARTICIPATION IN A RESEARCH STUDY

CHILD'S NAME: _____

TITLE OF STUDY: *Imaginative writing of deaf children*

Name of researcher: Maria-Emmanouela Terlektsi

- I have read and understood the information sheet sent for this study and have had the opportunity to ask questions.
- I understand that I am completely free to decide whether my child will participate in the research study or not and that my child can withdrawn from the study at any time s/he wishes to do so.
- I understand that if I agree for my child to take part in the research then I have to give personal information about my child (degree of hearing loss, age of diagnosis, communication approach).
- I agree for my child to take part in the research
- I agree to give personal information about my child's deafness and communication

Signed: _____

Please print name: _____

Date: _____

Creative Writing of deaf children

Parent's information sheet

This information sheet is being given to all parents who agree their child to take place in the research for the assessment of creative stories of deaf children. It aims to give information about the children involved in the study. All your answers are totally confidential and will be seen only by the researcher and the researcher's supervisors. Please complete as many of the areas as possible and in detail.

Date: _____

Child's Name: _____ Age: _____

Male ☐ Female ☐

Child's information:

- Age of diagnosis: _____
- Is your child moderate, severely or profoundly deaf?

Moderate ☐ Severely ☐ Profoundly ☐

- Does your child have a cochlear implant: Yes ☐ No ☐

If yes at what age was the child implanted? _____

- Parents: Hearing ☐ Deaf ☐

- How do you communicate with your child at home?

Using speech only ☐ Using signs only ☐ Using both speech and signs ☐

- In your opinion do you encourage your children's creative writing at home?
For example, do you stimulate your child to write a story using his/her imagination?

Thank you for completing this information sheet

Information for children

Do you ever imagine and write stories about the things you imagine? I want to find out so teachers can give you more time to write stories and improve your imagination.



I would like you to write a story using all your imagination. I would like you to express on paper all the ideas that come to your mind. You can write as much as you want and even if you are not in the mood of writing you can say so.

Your parents/carers already know that you are going to write a story using your imagination.

Once we collect the stories from all the children we will write about the ideas you have. I will not use your name and only the teacher and I would know about the stories you have written.

Thank you for your cooperation,

Emmanouela Terlektsi

APPENDIX 3

Four children's Imaginative Stories

Participant 1

The Amazings

About a year ago a small boy called D [REDACTED] [REDACTED]. His superhero name was Dash, his power was to Run Faster than a speeding bullet. His dad, MR. Amazing his Real name was Ben. Jayner, His power was to lift buildings that were 132 feet high! His mum was called Julie [REDACTED] her superhero name was Elastergirl or Mrs Amazing, her power was to stretch as high as 10 meters! His sister's name was Ellie cassell, her power was to make a force field around herself and turn invisible. Their Arch enemy was DR. BRAIN!!!

This story started on a normal schoolday at lunchtime when a huge Ball of steel hit the playground and all the children ran out of the school SCREAMING! While I went into a phone box to change into my superhero costume when I ran out of the phone box I saw my family fighting the Robot, suddenly eight huge legs shot out of the Robot and one leg grabbed MR. Amazing! Mr. Amazing broke the Robot's leg and took the foot off and tried to throw it at the Robot but suddenly DR. BRAIN came out saying "I Surrender" with his hands up then suddenly he pressed a button on his head, which made the robot hit me, MR. A. and Ellie which made them get knocked out! When we woke up we were in a dungeon with two skeletons hanging on the wall in front of us with DR. BRAIN saying "Well well well, look at our favourite superfamily now, can't talk, got to carry on with my invention to make the world MINE! Ha Ha Ha Ha (Evil Laughter) Luckily Ellie's Force field around her was strong enough to break the chain and get down from the wall and get the chain keys on a nearby table and unlocked mine, Mr. A. and Mrs. A. off the wall and we escaped from the dungeon. But Mr. A. said what about the invention that DR. BRAIN was working on we quietly went back into the dungeon and saw DR. BRAIN fiddling with something small about the size of a eraser, I looked closely at the thing and quickly whispered "its a bomb, a brainwashing bomb" we quickly crept out and suddenly we saw a Even BIGGER robot destroying the city with the thing that DR. BRAIN was fiddling with. Mrs. A. said "Quick!

destroy the Robot before the robot explodes!"
the robot quickly shot a hot bullet at us then a metal eyeball at us
mr A, me, E/XE avoided the hot bullet and mr A. caught the eyeball swung
her arm around a tree, pulled her arm and let go of the eyeball and the
eyeball flew through the robot's chest and killed the robot. Just
when there were 15.53 seconds. I quickly ran up the robot, grabbed
the timer and gave it to mr A. and he broke it with his hands!
the whole city cheered and applauded for us and we got medals
from the mayor! The End

27 April 2000

Master Mong

A few years ago, a central England, a ship set sail. The ship was going to USA (United State America). A man onboard ^{called Kevin} wanted to be in a theater in USA. When they were a quarter of the way there they hit a storm! the storm was strong that it almost made the boat get turned over! The captain said "check how deep the water was" Ming checked and said "30 Fathoms! the water is getting shallower!" a few minutes later, he said "25 Fathoms!" Luke said "ROCKS!" "EVERYWHERE!" Luke said even louder "Rocks to port, rocks to starboard! They're everywhere!!!" He also said "WALL! THERE'S A WALL!" while Lynn gripped onto Frank. Ming said 10 Fathoms! suddenly the ship crashed into the wall! Suddenly a huge monster called "Mong" crashed through the wall and threw the ship back to England killing 5 people the rest fell into the sea and 5 survived they were Ming, Luke, Lynn, Kevin and the captain. Kevin told them to collect as many seaweed as they could and called skulleep and throw them at Mong about 5 minutes later 2 of the people were killed! They were Ming and the captain. Finally Mong died by the stench of the seaweed! Another ship went past and they all waved at the ship, a few seconds later, the ship went to get them and they turned the island into the most famous place on earth! Lynn, Kevin, Luke got taken back to England and turned into Millionaires! and lived happily ever after.

The Journey to The Edge of the Ocean

Not long ago, a boy called D [redacted] got up out of bed he got changed and went to wash his face then he looked up at the mirror, Suddenly he let out a Huge ~~SCREEK~~ K! he had turned into a Fish! * suddenly he found that he was underwater! he swam around looking, then suddenly, a Big ball of light showed up and it said "to get everything back to normal, you have to get to the edge of the ocean and find the mirror, look at it and you're all back to normal!" then disappeared. Dominic thought, but how do I get there? he went left and carried on going then he arrived at a big Forest of seaweed. "Oh-No!" said D [redacted] then suddenly something tapped his back, he slowly turned his head then something said "Hello" very loudly! D [redacted] SCREAMED! "It's okay" said the thing, "I was an Eel" "Oh, Hi!" said D [redacted] the Eel said, "My name is Jak" "My name is D [redacted]" said Dominic. Suddenly a Shark Roared and started chasing D [redacted] + Jak they whizzed through the Jungle of seaweed and splatted on the sand and kept on going through the sand, down, down, down, down, and up, up, up, up and out of the ground. They Screamed with Happiness because they had lost the Shark. then they saw a sign that said, Edge of ocean, Dig Here, they dug the ground up and found the mirror! YEEEE! they said Jak looked first and changed into a human D [redacted] looked second and changed into a human and everything changed into like his house and found that he was standing in the bath. The End

* I looked like a tiger fish, orange with black stripes and huge eyes!..

Participant 2

26/1/06

Yr 6
Age 11

My magic fingers

One day I walked to school and I waved at my friend Amelia, wiggling my fingers. Suddenly ~~At~~ Amelia was shaking, when I stopped wiggling my fingers she stopped shaking. I was shocked. How could I do that? Amelia was crying hysterically "What happened, why me?" asked Amelia.
"I think I know. Promise you won't tell anyone?" I whispered.
"I Promise" replied Amelia.
"I think my fingers are ~~my~~ magic" I told her truthfully.

Amelia was shocked, but I did still use my powers. Whenever I do my homework, I used my fingers. How cool is that? I found out I can sense ghosts and spirits around me. I have made a ghost friend. He is called Charlie. I went to the park with ~~At~~ Amelia on one Saturday Afternoon. ~~At~~ We went on the swings and when I jumped off my swing I was flying.

"Charlieeee! ~~&~~ Stop it! take me back!" I pleaded
I were ~~x~~ so scared so I could not keep awake.
"I am taking you back" whispered Charlie.
Charlie sat me on the swing next to Amelia.
"Amelia?.... do you know what has just happened?"
I asked.
"What are you on about?!" Amelia asked.
She did not know anything about that? It is sooo ~~wierd~~ wierd. I need to get out of earth now!!!

I need someone to help me, someone with powers like me. Charlie! Yes he could help me.

"Charlie?" "You there?" I asked.

"Yes, right next to you." Charlie replied.

"Are you dead?" I whispered.

"I don't know" He ~~cried~~ sobbed.

"It's ok! Do you have powers like me?" I asked.

"No" He replied.

Ok! this is not going to get me anywhere!

What AM I GOING TO DO?!

AAAAGGGG HHHH!!!!

Ok calm down I am going to confess to my mum.
Firstly I asked.

"Is this house cursed?" I asked.

"No! Of course not!" Mum replied.

"Mum, I have got something to tell you" I confessed.

"Go on then!" Mum said confidently.

"I think I have powers" I blurted out.

"Nonsense.... Darling" laughed mum.

"Let me show you" I said seriously.

"Oh my god you spilled my coffee!" cried mum.



"Eleanor, How did you do that?" Mum asked.

"I don't know" I said.

People found out what was wrong so now I live in a mental care home to get better. Goodbye for now.

The candy island

My name is [redacted] I am going to tell you my best adventure ever!

I came home from school, relaxed on my bed. Suddenly my mirror was like a ~~torax~~ tornado and had beautiful glitter. I was scared as well as excited. Then I heard a voice....

"Come ~~on~~ on, my dear. Come through, don't be scared" said a soft voice.

I did as I was told, I stepped in the tornado. The next minute I woke on an.... Island I have never been to before! It was beautiful.

Then I noticed a little creature, I don't know what it was.

"Hello! My name is Islamamod" said a squeaky voice.

"Uh... Hel.. Hello, my name is [redacted]" I hesitated.

"This is a island called "Candy Island!" I suppose you have never been here" Islamamod asked.

"No! Tell me how I got here. And that is a comand!" I shouted.

"The candy wizard" whispered Islamamod. "Bye, Biad!"

"Uh.... help!" I cried. Islamamod did not come back.

I was hungry so I could not help myself to have one of the sweets. I had a marshmallow with dark chocolate sauce on top.

15th March 2006 Age: 11 Year group: Y6

It was lovely, ever so yummy, I loved it so much.



Then I saw another creature.

"Islamamod?" I asked.

"No! Mohamohead!" Screamed the tiny, evil and angry creature!



But a candy tree saved my life, I mean... WOW!
I was safe as sound. But sad. Unfortunately I did miss my parents. I was sobbing all night. Then that soft voice came.

"Goodbye!"

I was home, I was ever so glad!

"Mum!" I screamed.

"Yes darling, I'm home" she cried.

Huh? Has all this been a dream?

Age 11

The day I changed into an Amer Animal

26th June 2006

I went to bed as it was 9:00 pm, I Kissed
goodnight to my mum,

"Night, mum, I love you." I whispered.

"Love you too, chicken" Mum replied.

I got into bed and started to drift away...

I woke the next day feeling rather strange, I was
so uncomfortable, I looked around the room, I had the
shock of my life, yes, my room was not my room, it cant
be, it was, ... I'm speechless, oh! It has transformed
into a jungle. I looked in the mirror,

"AAARRRHHH!!!" I growled

"Oh, darling, what is the matter?" snarled mum, the lioness

"Who are you, and I have transformed into a heppord
oh, what is the matter with me?" I whined.

"Oh, Eleanor, silly I'm your mum, now come downstairs
and go out to your friends" ~~sighs~~ sighed mum

"That ought to make you feel better"

~~I went to bed~~ I rushed downstairs, growling,

I was hoping that my friends understand me.

"OK! Tell me which one of you are who?" I demanded

"What? Who are you, I'm Sustine, leave me alone!" Cried
a bird.

"Sorry" I said rather embarrassed.

I wandered about, when I fainted, I had been
hit on the head with a coconut.

"Huh? OI! who are you?" I asked a horse.

"I dont know, I have been transformed" replied
the horse.

~~Suddenly~~ Suddenly, I started flying in the purple
~~air~~ Sky.

"AAHHH!!" I screamed.

"What?" cried a lion.

"I'm flying" I ~~so~~ answered.

"Yes, and?" The Lion replied as if I ~~have~~ am
so dumb.

Then I felt a bump.

Soon I awoke.

"Hello" I whispered

Oh It's all back to normal. Oh thank god.

The End

Participant 3

Magic Power. (123)

I walked through a wall
and then I went invisible
So knowbody can see me
and I spyed on some bodies
and I followed the ^{boy} man
and a hold load of ningers
jumped out of the bushes.
and then I was ent
invisible any more and
I got my sword out and
had a fight with them
and when I killed them
and I knew they were
badys so I thought the
boy was good guy so we
discussed stuff with each other
and when we went to the
badys base -- when we
got there 16639 ningers ^{apparently hunting.}
jumped out of the base
and I made a arme
with 98000 and when
I did it and then
my friend hit me.

and joint them so we had a fight.

The
Island

I was on a ship and the ship and it hit a rock and crashed on the sand. I got off the ship feeling all dizzy. I kept falling over and when I stoped being all dizzy I looked around me I saw the sea and. A Jungle so I went into the Jungle I saw monkey's. And horses and there was a river so I took a sip off it. and I saw some thing on the outersid son I went in the river. I saw a snake come in the water it tried to attack me but I held on it in time and I puched it four times and it went away and I raced ~~acros~~ across to see what it was it was a big lion he was a magic lion said "sant bandoo" and a sand came through a hole and I picked it up. and the lion said "have a wish" I said "my boat to be fixed" and he said "ok you will have to fight your way back". So I said "yes" so I went back is an two hunting men then we had a fight as soon I killed them I ran and swam over the river and loads of snakes came about ten of them I chopped off all of their heads and I got three cuts. and I just ran and I got to my boat and sailed home and in the middle of the ocean a pirate ship came with twenty pirates my saild shredded and ten men became behind me and me and my men had a fight

with twenty pirates and we took
over their ship as they killed them
all six of my men died. and the
sawd was a magic sawd. and we sailed
home with two ships and I
never told any one where my island
is and kept my sawd The Fand.

I woke up and got my clothes on and I washed my face and I turned into a ape and ripped my clothes off and smashed the glass and jumped out of the window and landed on a lamp and people screamed and were very scared of me because I am a ape and I was ~~scared~~ bored so I jumped at the lamp and went to my friend's house to see what he was up to and when I walked dots of people were screaming so I ran and when I got to his house and he opened the door and he ~~looked~~ ^{to the right} looked at me and I walked to the lounge I sat on the chair and my friend ~~opened~~ ^{saw} when he saw me in the living room and he jumped onto the lamp and he fell off and he fell and hurt his bottom and said "ouch" and then looked at me and said who are you and I said I'm your friend Josh and he ~~said~~ ^{said} you are him how come you are a ape and I said I am not so he found a mirror and showed it to me and I saw my reflection and said how come am I an ape when I am a human and I am a ape and I gave ^{him} a mirror back and he said you can't stay here any longer because some one will find you here and he gave me a pile of food in a bag and said you will need this for your journey and I said Thank you to him and he said wait as soon as I was about

the water bottle and I said what he said you need water so he gave me a big bottle of water and I put it in the bag and he said how did you turn into a ape and I said I wanted my race and He said oh and sat down and I left the door and people were scared of me and I got scared up with it so I ran and some of the people called the wild hunter who put ^{around} water to sleep and put them in the Zoo. and then I was running I saw a rougher ape and it said that he has been turned into a ape and every body have been ^{afraid} of him and he said are you a boy and I said yes so we traveled together and got ^{staying} to people at us and he ^{noticed} them into Zoo hunters came and they came and shot a bullet at my ape friend and so I throw a dagger lid at it and it rolled down the way and he sound out the Zoo hunter ^{came} were after us and ^{climbed} the pipe bag ^{noise} of the Zoo hunter and loaded his bullet to fire and we ~~found~~ ^{the} ~~hunting~~ ran on the building and he shot at me and I just me + my friend and swarmed ^{and} through a window and ~~to~~ me and my friend ran opened each other in ^a circles and it made him dizzy and when we got him then we went back to normal because he put a bit of drugs in the water ^{system} so I put and so we beat him so it went okay and we said by ^{to} each other and went to have arrest. (The End) was

Participant 4

6.4.06

Once a polatime there was a
a young boy he was born in a
mountain, at the very heart,
his name was Louis. His father called
Carl liked the look of magic. Once his
father said

"Son you are a magishan, you will
live forever and magic will come your
way". Louis thought ~~to~~ wicked that's
amazing but ~~I~~ ^{won't} grow old, very old

"No you won't kiddo" said Carl

"father how did you no ~~that~~ what I
thought?" said Louis

"I'm a mindreader son"

"oh" said Louis

"bedtime its 10 pm."

"Father" called Louis

"how do I do magic?" said Louis
out of breath.

"go to the inside of the mountain."

L. ~~ran~~ and ran to the mountain.

and a monster. Cried out
Gaaaaa it food ranted at
Louis,

Louis suddenly fired magic ~~balls~~
~~balls~~ spikes and meatal,
it was fantaic.

Louis went inside the mountain and saw
a vision it was this
Gaaaaa a rooded thousands of monstars
adults and bobs and he killed them
all and became a hero.

But Louis Sreamed "no" he didn't
want to.

"I will save all nature and the
world"

The end

/year 6

One day I was travelling long and far
I came across a island it was no.
normal island it was in the sky but
the sky was burning but it was cool on
the sea. I sailed some more and found my boat
the angel floating up in the sky, I made her
sail to the island it was like being
abroad & & "woah" I said for there &
was huge and I mean huge dinosaurs
and half pig half t. rex Wow that was
a ~~shit~~ ~~shit~~ ~~shit~~ Smith and a beautiful
girl called me King & and was scared of
something behind me. I turned around a
behold a great giant Mountain was there
I felt the urge to climb it so I did
I saw a flying pig. I jumped and
made it. I controlled the pig and flew
on to the top of the mountain. I call this
island the flying island I ~~shot~~ shouted
and I shouted I am King Louis to you
Love me my Lovers. I Love this
island I mean I Love this flying island
but then I saw a beast and the beautiful
girl snogging, yuk I screamed I Liked you as
well go! I feel dizzy I passed out.
chapter 2

I woke up and hit my head on a
pan aww that hurt alot but, didn't
care I was stuck nooooo! I screamed
let me out now!!! No said a voice

how
how was that? water
what me

Se: yes you
how did you get in here &
I found this my flying island
your flying island.

yes
no, mine

Hendrik what is your name
Louis, what's yours

Louis but I am reporting you
you reporting me

yes
no, I am reporting you.

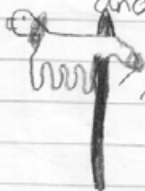
no your not
yes I am

Stop you two your free
what me said Louis and Hendrik
yes said the man.

The end

08/08/2000,

~~Year 6~~ year 6.

One morning I woke up wow the room seemed small, I looked down in the mirror alas ~~roar~~ raah meaning to scream I roared for I was a ~~lion~~ lion I leaped downstairs and felt hungry I eat a ham turkey and then a kind of thing I leaped outside, raahaa I ~~leaped~~ ~~leaped~~ roared I was in a rainforest I pounce on a nearby ~~big~~ bear it was wild I think I suddenly ~~leaped~~ ran in the open, I saw Turkey cows, pigs all alive and unfortunately not wild. I tell you a farm breeding one, I crouched and slowly walked over there. I jumped high a very high and high way about 1 million miles across and 20 200 feet ~~high~~ high and I fell and landed on my  bed and I turned back into my normal shape but it was weird the end.

APPENDIX 4

Imagination Story Scale

IMAGINATION SCALE

Introduction

Examiner's scoring sheet

Manual for scoring

Additional directions

Introduction

The imagination scale is designed to evaluate pieces of writing produced by primary school age children. The aim of the imagination scale is to provide teachers with a measure of assessment of children's pieces of creative writing. It is based on the difficulties that teachers face in evaluating imagination, creativity, originality, ingenuity and other imaginative qualities in children's narrative. It is composed of various different features that indicate imagination in children's writing. The selection of the particular features is based on previous research on originality, on tests of creative thinking and on extensive reading of children's creative pieces of writing.

The principal value of this imagination scale is that it brings into focus some of the characteristics of imaginative writing. In addition, this analytical scoring scale has many uses. Teachers in the elementary schools might fail to recognize unusual qualities of thought and style. Pupils have a very vivid and strong imagination and teachers who serve as evaluators of their writing have to be familiar with this. The

scale may be useful as a measure of effectiveness of lessons of creative writing in schools. The scale can also be used by teachers to teach children the difference between ordinary and vivid, expressive writing. Each evaluator can attribute its own use to this type of measurement.

Every assessor is advised to read through the whole package of information before processing with scoring.

Examiner's Scoring Sheets

The tables presented below exhibit the features of imagination that are found in the stories. The imagination scale has four main divisions: Story structure, Story plot, Linguistic imagination and Originality; and two additional divisions: Elements derived from known stories and overall score of the imaginative story.

The range of scores given for each feature of the scale has six ratings. **Each feature that indicates imagination can be scored from absent to 5, where “absent” indicates when a feature of imagination is not present in the story, 1 indicates when the feature presented in the story is ordinary and 5 when the feature presented is imaginative.** Descriptive samples are included in the manual for scoring of the scale for the ratings: absent, 1, 3 and 5. The ratings of 2 and 4 have to be estimated by the judges. The manual for scoring of the scale that follows after the presentation of the tables lists 17 items grouped under the four main four divisions. The two additional divisions of the scale have to be assessed at the end. In the division: “Elements derived from other stories” the evaluator has to indicate which elements of the story are taken from a known story and specifies which story or

stories are taken from. At the last division of the scale the evaluator has to give an overall score of the story judging on how imaginative the story is. The scoring table for the last division has five ratings from 1-5 where 1 indicates that the story is ordinary and 5 indicating that the story is very imaginative.

The evaluator who assesses the imaginative elements of a story ticks the box that best applies to the feature being commented. It is advised that the evaluator reads throughout the tables, the manual for scoring and the additional directions prior to scoring the relevant boxes. The following tables of scoring for both the main and additional divisions are one for each story.

Main Divisions

Story Structure	Absent	1	2	3	4	5
Beginning						
Ending						
Title						

Story Plot	Absent	1	2	3	4	5
Initiating event						
Internal response						
Consequence						
Dialogue						
Suspense for the continuation of the story						
Connection between things unrelated in reality						

Linguistic Imagination	Absent	1	2	3	4	5
Innovative use of words or words expressing vivid imagery						
Name invention						
Innovative connection of words						
Personification						

Originality	Absent	1	2	3	4	5
Unusual theme or idea of the story						
Appearance of non existent subjects/ objects						
Ingenuity in solving situation						
Quantitative thinking						

Additional Divisions of the Scale

Overall imagination of the story

Give an overall score of the story indicating how imaginative the story is overall by ticking the relevant box. The ratings are from 1-5, **1 indicating that the story is ordinary and 5 indicating that the story is very imaginative.**

	1	2	3	4	5
Overall score of the story					

Manual for Scoring

The imagination scale has five divisions: **Story structure, Story plot, Linguistic imagination, Originality.**

Under **story structure**, 3 items are included: *beginning, ending and imaginative title.*

These four items follow:

(1) Beginning

The beginning of the story is imaginative and gives the opportunity to the reader to create images about the story.

Absent - There is no beginning to the story.

- 1 - The beginning of the story is ordinary
Once in a normal house, in a normal town, on a normal day there was a normal boy who went to a normal school.
Once upon a time in a little village there was a girl called Maria
- 3 - The beginning of the story is different and not so ordinary
Once a fairytale there was a fairy born at the heart of the mountain
- 5 - The beginning of the story is very imaginative, extraordinary, very rare.
Last night I felt something come to me, a funny thing like a clown. I started wriggling and then heat vision came out of my eyes.

*"I can't. The only thing I can be now is something small as a mouse! Here you are:
Hold my tail"*

(2) Ending

Conclusion of the story or ending is considered to be unusual in children's stories and includes imaginative elements.

Absent - No ending. The story seems unfinished.

- 1 - The ending is ordinary
They lived happily every after.
- 3 - Conclusion or ending quite imaginative and different from most stories
The next day I woke up feeling weirdly and I became invisible for the rest of my life
- 5 - Highly imaginative conclusion or ending

The little super boy threw him to the big tree and he hit it and he fell down to earth and fell on statue of liberty and got crushed. His body was never found and the mystery is still alive.

(3) Title

The title of the story is considered to be unusual in stories and includes imaginative elements.

Absent - No title given.

- 1 - The title of the story is very ordinary and exactly taken from the stimulus given
The island
- 3 - The title of the story is quite imaginative and is modified in regard to the stimulus given
My chocolate island
- 5 - The title of the story is highly imaginative and totally different from the stimulus given
The story of my flying - invisible island

The **Story plot** of the Imagination scale consists of six elements: , Initiating event, Internal response, Consequence, Dialogue, Unexpected events, Combination of things from everyday life with extraordinary things. All the above items follow:

(4) Initiating event

The initiating event of an episode is imaginative and unusual.

Absent - There is no initiating event.

- 1 - The initiating event is very ordinary and frequently found in children's stories
They had a boat and they went sailing in the sea
- 3 - The initiating event is unusual and quite imaginative
One day I woke up and I was a bird and I flew out of the window.
- 5 - Very imaginative, genuine and extraordinary

(5) Internal response

The protagonist's reaction to the initiating event is imaginative and original, uncommon in children's stories.

Absent - There is no internal response.

- 1 - The internal response is ordinary.
He had to control and drive the boat
- 3 - Internal response is genuine regarding the particular situation
I flew so high that I crashed into Big Ben
- 5 - Internal response is extremely imaginative and extraordinary
He went to a hospital on Mars so the doctors could treat his weird illness

(6) Dialogue

The dialogue included in the story is so imaginative and unusual that it is rarely found in everyday life.

Absent - There is no dialogue in the story.

- 1 - The dialogue of the story is very ordinary and repetitive
Mum said: "Oh my god."
I said "Mum don't worry I will go to school."
- 3 - The dialogue used is rarely found in children's stories but is not so imaginative
"What are you going to do now? You won't be able to go back."
"I have a plan. I will sneak out of the window, directly to the sea, along the ocean"
- 5 - Highly imaginative dialogue, very vivid which is very rarely seen in children's stories
"He is coming. Quickly change into a rhino"
"I can't. The only thing I can be now is something small as a mouse! Here you are:"
Hold my tail"

(7) Consequence

The result of the protagonist's action is so imaginative and unusual that it rarely appears in children's stories.

Absent - There is no result of the protagonist's action.

- 1 - The result of the protagonist's action is ordinary
So, they found an island where they could eat and sleep at night
- 3 - The result of the protagonist's action is unusual but not imaginative
After crashing everybody thought I was dead but I was alive and turned invisible
- 5 - The result of the protagonist's action is very unusual and highly imaginative
He escaped from the hospital by turning into a rhino and smashing through the wall.

(8) Suspense for the continuation of the story

There is suspense/anxiety for the continuation of the story and the plot is highly unpredictable.

Absent - No suspense, the plot of the story is very predictable.

- 1 - The story is fairly predictable
- 3 - The story is predictable but there is suspense in some parts of the story
- 5 - Very unpredictable, there is suspense for the continuation throughout the story

(9) Connection between actions/things unrelated in reality

Things that are not related in reality are connected or combined.

Absent - There is no connection between things unrelated in reality in the story.

- 1 - The connection between things is usual and not imaginative
I hit the tree and it falls
- 3 - The connection between things unrelated in reality is not common in children's stories and is quite imaginative
He was vomiting money
- 5 - The connection between things unrelated in reality is highly imaginative
He sneezed and he splashed a hole in the wall and he was terrified

The **Linguistic Imagination** of the imagination scale includes five items: *Word invention, Name invention, Innovative connection of words, Personification, Use of similes*. All the above items follow:

(10) Innovative use of word or words expressing vivid imagery

Words that are either new (product of children's imagination) or common words used in a way that allows for visualisation.

Absent - No new words or words expressing vivid imagery.

- 1 - Words expressing imagery are used but are rather ordinary
Whoops!
Eek!
- 3 - Syllables or words used which are innovative or vivid
The bee managed to fly away from the explosive bomb...ba va boom!
- 5 - Syllables or words are used which are vivid, unusual and innovative.
She was an aliasement
He opened a hole in the wall with his feet: smig- blang -pow!

(11) Name invention

Invention of names given to people, which are imaginative.

Absent - No names used in the story.

- 1 - Ordinary names are used in the story
Ben, Helen
- 3 - The names used are new and quite imaginative
Neve
- 5 - New, non-existent names are used which are unusual and highly imaginative
Amiemels

(12) Innovative connection of words

Connection of words is unusual, not used in everyday life and imaginative.

Absent - there is no innovative connection of words.

- 1 - Connection of words ordinary and usual in children's stories
Magic jacket
- 3 - Connection of words is unusual and quite imaginative
Green sparkling globe
- 5 - Connection of words is odd, unusual and highly imaginative
Webbed arms
900 stories high

(13) Personification

Human characteristics are attributed to non-human subjects or objects.

Absent - No human characteristic attributed to subjects or objects.

- 1- Human characteristics attributed to subjects/ objects are ordinary
The rabbit went for a run in the park
- 3 - Human characteristics attributed to subjects/ objects are unusual, quite imaginative
The car went to have a cigarette
- 5 - Human characteristics attributed to subjects/ objects are very unusual, they rarely appear in children's stories and they are highly imaginative
I flew up to the sky and the sun talked to me

The **Originality** portion of the imagination scale includes four items: *Unusual theme or idea of the story, Appearance of non existent subjects/objects, Ingenuity in solving situation, Quantitative thinking*. Illustrations follow:

(14) Unusual theme or idea of the story

The main idea or theme of the story is very imaginative and unusual in regard to the given title.

Absent - No novel theme or idea in the story.

- 1 - Novel idea or theme used, but ordinary in children's stories
I had the power to fly to be invisible
- 3 - Novel idea or theme is quite imaginative
The power she wanted was to be clever at everything with her jacket and she wanted to be invisible when she opens her pocket.
- 5 - Novel idea or theme used very imaginative and very unusual which appears rarely in this population sample
He had a power. The power was to be able to shape shift!
He was a normal boy who sat on a normal bean tree and the normal tree grew as fast as the speed of the light and then the normal boy jumped from planet to planet and he got to Pluto and could see nothing.

(15) Appearance of subjects/ objects non-existent in reality

Subjects or objects that do not exist in reality are created and included in the stories.

Absent - No appearance of subjects/ objects non- existent in real life.

- 1 - Subjects/objects that do not exist are created but they are ordinary and common in children's stories

He turned into a dinosaur and ran away.

- 3 - Subjects/objects that do not exist in reality are created which can appear in children's stories quite frequently and they are quite imaginative

My best friend was a ghost; we used to talk every day

- 5 - Subjects/objects are that do not exist in reality are created which rarely appear in children's stories and are highly imaginative

I turned into a Minotaur horse; which is bull, horse and person.

(16) Ingenuity in solving situations

Absent - No solution for a problem appears.

- 1 - Situations or problems are solved in an ordinary, very common way

I killed the bad guys and saved the princess

- 3 - Situations or problems solved in a way that is quite imaginative

A train was behind me and I ran super fast down the street and the train never caught up with me

- 5 - Situations or problems solved in a way that does not appear in children's stories and is highly imaginative

He wanted to go away from trouble so, with the help of the bean tree he went out into space and straight through the moon.

(17) Quantitative thinking

Numbers are used in an unusual way. There is exaggeration in the use of numbers and they are used with meticulous detail.

Absent - No use of numbers.

- 1 - Numbers are used in an ordinary way

They couldn't handle him so she sent him to Area 51 because of his unusual illness

- 3 - Numbers are used to broaden the story, quite imaginative

Super kid lived in Pluto and lived to 157 years old and his body was never found and the mystery still lives till this day 382 years later.

- 5 - Numbers used in an exaggerated way and with meticulous detail, very imaginative

Then after that I fell into the ocean and 40.000 sharks chased me but luckily I could swim super fast.

Additional Directions

- The evaluator is advised to read the story or stories that are for rating, prior to scoring them. It is recommended that the whole story is read and then scoring is given for each of the main and then for the additional divisions of the scale.
- Some definitions of the words included in the manual for scoring of the scale follow:

Story: A story can be defined as an account or recital of an event or a series of events. It is considered as the telling of a happening or connected series of happenings.

Beginning: The beginning of the story does not have to be the first sentence. It is the sentence in which the main character, the general setting and the specific time that the story begins are established. Note, though, that the setting can be established indirectly: introduction of main characters, as well as the time and place for the story action.

Initiating Event: The initiating event is the action or happening that sets up a problem or dilemma for the story.

Internal Response: The internal response is described as the protagonist's reactions to the initiating event.

Consequence: The consequence is the result of the protagonist's actions. The way that the protagonist responds to the internal response has a consequence.

Note: The above three terms are borrowed from story grammar and they form an episode. A story can have more than one episode.

Plot: Plot can be considered as the arrangement of incidents that each follow plausibly from the other. It is the rendering and ordering of the events and actions of a story, particularly towards the achievement of some particular emotional effect.

Suspense: Suspense is defined as apprehension about what is going to happen. It excites anticipation of an approaching climax equip.

Usual: It is something that everybody can think of, something that appears in most of the stories, is ordinary and can be found in everyday life

Quite imaginative: It refers to the ideas that are imaginative in the sense that something does not appear or happen in reality but can be found in most of the children's stories

Highly imaginative: It refers to ideas that are detached from everyday life and are rarely found in children's stories.

APPENDIX 5

Assessment of Deaf Children's Writing

Manual for assessment

(Nunes, T.) Assessment of Deaf Children's Writing – Notes for using the Analytic Writing Assessment.

<http://www.education.ox.ac.uk/research/resgroup/cl/clr.php> (15 December 2008).

Analytic Assessment of Deaf Children's Writing – Score Sheet

Does the child... 1. Include spaces in alphabetical letters to resemble words?				
No evidence (rakfleosanchF evkdmsormbir)	Beginning to (Evident once e.g. wmsm amsdmri)	Sometimes (Evident 2 or 3 times)	Mostly (Evidence present under most pictures)	Systematically and correctly (All writing resembles words)
2. Put words in subject-verb word order, e.g. 'mum put'/'boy go'?				
0. No evidence	1. Beginning to (Evident once)	2. Sometimes (Evident 2 or 3 times)	3. Mostly (Evidence present under most pictures)	4. Systematically and correctly (appropriate subject-verb order)
3. Form noun and verb phrases, e.g. 'clothes in car'/'going holiday'?				
0. No evidence (Uses isolated words not forming noun or verb phrases)	1. Beginning to (Evident once)	2. Sometimes (Evident 2 or 3 times)	3. Often (At least ¾ of text shows some connection)	4. Systematically May have 1 or 2 isolated words (appropriate noun- verb phrases)
4. Include appropriate prepositions, e.g. 'in'/'to'/'at'?				
0. No evidence	1. Beginning to (e.g. in bag)	2. Sometimes (e.g. in bag/ in car/on sand)	3. Often (include a variety of prepositions)	4. Systematically A few errors allowed (appropriate variety of prepositions)
5. Use the articles 'the' and 'a' appropriately?				
0. No evidence	1. Beginning to (Evident once)	2. Sometimes (Evident 2 or 3 times, not always appropriately)	3. Often (often, and mostly appropriately)	4. Systematically But a few errors allowed (appropriate use, few omissions)
6. Use connectives such as 'and', 'then'/'next'/'so'/'after'/'now'/'because'?				
0. No evidence	1. Beginning to (Evident once)	2. Sometimes (Evident 2 or 3 times)	3. Mostly (include a variety of connectives)	4. Systematically and correctly (appropriate variety of connectives)
7. Use full-stops and capital letters correctly?				
0. No evidence	1. Beginning to	2. Sometimes	3. Often when required	4. Systematically But a few errors allowed (e.g. Names and starting sentences)
8. Use verb tenses, e.g. 'go'/'went'/'saw'/'opened'/'was packing'?				
0. No evidence	1. Beginning to (evidence of verbs – 1 or 2 isolated changes in tense)	2. Sometimes (more than 2 changes in tense)	3. Often when required (a variety of tenses – some correctly)	4. Systematically but a few errors allowed (appropriate use of a variety of tenses)

Analytic Assessment of Deaf Children's Writing (continued)

9. Use punctuation (“ ”, ! ?) beyond full-stops?				
0. No evidence	1. Beginning to	2. Sometimes	3. Often when required.	4. Systematically but a few errors allowed
10. Include substitutions or omissions (not including articles), e.g. ‘they are so happy to the beach’/ ‘he went down and next to the door’?				
0. Constantly (this includes single word writing)	1. Often (most sentences are missing words)	2. Sometimes (at most half the time)	3. Rarely (at most a quarter of the time)	4. No evidence
11. Include unnecessary words and/or morphemes, e.g. ‘is everything is locked’/ ‘paided’?				
0. Constantly	1. Mostly	2. Sometimes	3. Rarely	4. No evidence
12. Use words relevant to the illustrations?				
0. No evidence (dnejiri)	1. Beginning to (‘man’)	2. Sometimes (man bag car)	3. Mostly (man bag boy door boot)	4. Systematically and correctly (Many appropriate words)
13. Include appropriate pronouns, e.g. ‘he’/ ‘she’/ ‘they’/ ‘his’/ ‘hers’/ ‘it’/ ‘their’?				
0. No evidence	1. Beginning to (using e.g. ‘he’ throughout)	2. Sometimes (using 2 or 3 different pronouns)	3. Often (including a variety of pronouns)	4. Systematically but a few errors allowed (appropriate variety of pronouns)
14. Include information beyond what is depicted, e.g. names (people and/or items), places, time?				
0. No evidence	1. Beginning to (‘Sam’ or ‘Dad’)	2. Sometimes Include 2 or 3 examples	3. Mostly Include many examples	4. Systematically Include sufficient information to create a story
15. Include information on characters, feelings, intent, humour?				
0. No evidence	1. Beginning to	2. Sometimes	3. Often	4. Includes sufficient information to create a story
16. Include colloquial language/ expressions e.g. ‘far away’/ ‘nearly there’/ ‘stuff’/ ‘thing’?				
0. No evidence	1. Beginning to (1 or 2 examples)	2. Sometimes (3 or 4 examples)	3. Often	4. Systematically and Appropriately
17. Include direct speech?				
0. No evidence	1. Beginning to (1 or 2 examples)	2. Sometimes (3 or 4 examples)	3. Often	4. Systematically and appropriately